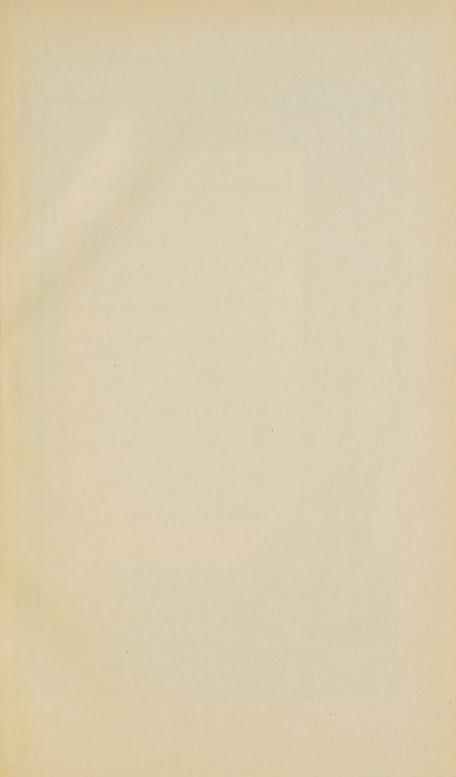
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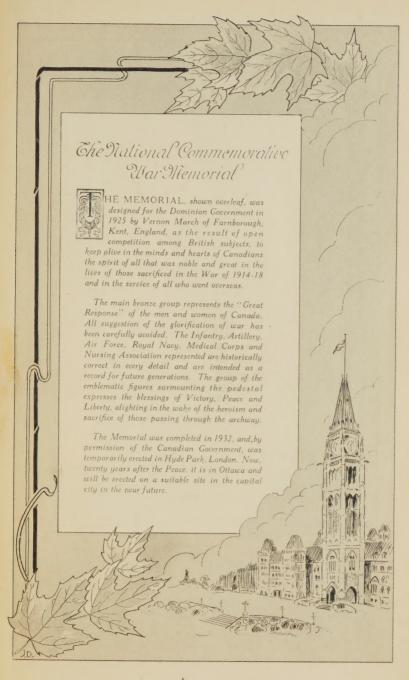
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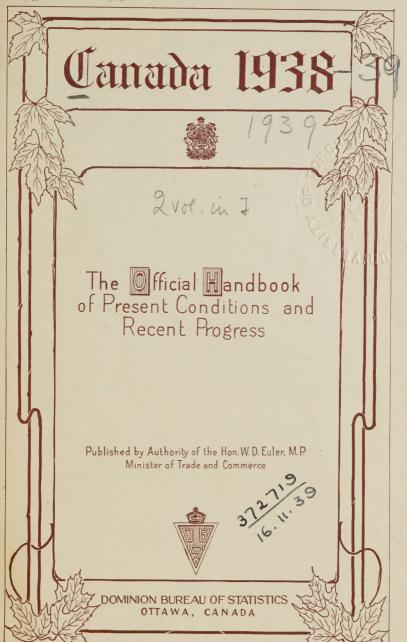








Canada. Bureau of Statistics



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OTTAWA, CANADA

FOREWORD



HE very substantial increase in the sales of this handbook since the series was placed on an annual basis in 1930, its extensive use by official and semi-official bodies in regular and special editions, its distribution in large numbers at international exhibitions and in different parts of the world

where Canada is officially represented, and its use, by special permission, in financial and commercial houses for distribution to their clients, all attest to the need which exists for a publication giving in brief and readable form the statistical record of the recent progress and present economic condition of the Dominion.

The current reports of the Dominion Bureau of Statistics deal in great detail with the subjects of population, production, external and internal trade, transportation, education, etc., but these detailed publications are intended mainly for those who are specially interested in particular phases of our national life. Again, the Canada Year Book, which summarizes these and other official publications, is of too detailed and expensive a character for wide distribution. The present publication is the result of an effort to survey the current Canadian situation—comprehensively but at the same time succinctly—in a popular and attractive form, and at a cost which makes possible its use on a general scale.

The handbook is designed to serve two purposes. To those outside of Canada, it will give a well-rounded picture of the Canadian situation from Atlantic to Pacific. In Canada itself, it will help to provide a better basis of information for dealing with current problems.

Minister of Trade and Commerce.

OTTAWA, January 1, 1938.

PREFATORY NOTE

This handbook has been prepared in the Dominion Bureau of Statistics from material which has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other branches of the Government Service.

The handbook is planned to cover, in nineteen chapters, the current economic situation in Canada, the weight of emphasis being placed from year to year on those aspects which are currently of most importance, since there is not space to deal adequately with all. The Introduction is a short review of data more fully set out in the succeeding chapters, but brought up to the actual time of going to press. Chapter I is reserved for the treatment of topics of current national or general interest and this year deals with the Trans-Canada Airway and Its Relation to the World's Airway System. This material has been revised by J. A. Wilson, Esq., Controller of Civil Aviation, and approved by the Hon, C. D. Howe, Minister of Transport. The special article on Prairie Farm Rehabilitation, which appears in the chapter on Agriculture, has been prepared by Wm. Dickson, Esq., of the Central Experimental Farm, Ottawa, and approved by Dr. E. S. Archibald, Director of the Dominion Experimental Farms.

R. H. COATS,

Dominion Statistician.

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INTRODUCTION

THE ECONOMIC POSITION OF CANADA AT THE CLOSE OF 1937

World Conditions



Hon. William D. Euler, M.P., Minister of Trade and Commerce

Industrial production which had shown expansion in most of the important countries for several years. recorded further betterment during the greater part of 1937 and reached a level considerably above the peak of 1929. The output of primary industrial materials recorded a marked expansion over the preceding year. Agricultural production, especially foodstuffs, remained comparatively stable. index of world stocks of primary products (base 1925-29 equalling 100) had fallen from the high level of 142 in 1931 to about 108 in 1936 with further reduction during the first half of 1937. Due to the rapid reduction in world stocks and the demand for raw materials in the principal industrial countries, a marked advance was recorded in wholesale prices.

The background for this betterment is well known. The alignment of currencies of which the Tripartite

Agreement was the instrument, provided a new stability of economic conditions offsetting, until recently, the uncertainties of the political outlook. The marked expansion in the industrial countries and the increased purchasing power in the raw material areas have been the complements of each other.

Nevertheless, a number of disquieting developments were present at the close of the year. Some recession was doubtless inevitable from the recent rapid pace of increase when there were fears of shortage in primary commodities and speculative increases in prices which were obviously based on a rising demand. The sharp advance in international trade was largely a one-way traffic, which developed into a tendency for the industrial countries to slow down their imports. The contribution to recovery in countries producing primary materials was consequently curtailed. In the latter part of the year, production exceeded consumption in many commodities, notably copper, coffee and cotton. Commodity stocks which had

been reduced, in many cases, to normal levels, reversed the process in the third quarter. The consequent decline in commodity and security prices undoubtedly administered a severe check to the advance previously in progress.

The present deflation in commodity prices may obviate the one-sided development of international trade and restore the possibilities of mutual exchange. A constructive factor is the elastic credit situation in the leading financial countries, which is the result not only of greatly increased reserves but also of the measures taken to give greater flexibility to credit management. In several other respects, the situation is generally regarded as less vulnerable than in the years from 1928 to 1930. Economic and financial maladjustments and excesses are not so formidable, although the continuance of armed conflict on two continents makes for political unsettlement. Commodity prices are now at a lower level and appear on a sounder basis; the former gold-bloc countries are likely to display improvement even in the face of recessions elsewhere; whilst the banking situation is fortified by heavy liquid reserves mainly in the form of record holdings of government bonds.

Conditions in Canada

Productive operations as measured by the index of the physical volume of business were about 10 p.c. greater than in the first ten months of the preceding year. The newsprint, mining and power industries, which contributed so largely to the period of prosperity which culminated in 1929, reached new high records. The gain in the output of manufactured goods was 10 p.c. Construction activity also increased moderately but remained much below pre-depression levels. Unfortunately the volume of field crops, due to the drop in the central portion of the Prairie Provinces, was the lowest in post-war history, the value at \$556,400,000 declining 10 p.c.

The output of industries engaged in the production of producers goods recorded a gain of 14 p.c. over the same period of 1936. The extremely low level of operations in this group was one of the outstanding elements of the depression following 1929. The output in that year of producers goods, such as machinery, building materials, and railway equipment, was relatively in greater volume than the production of consumers goods, a relationship which has not been restored even in the comparatively prosperous period of the past two years. The full restoration of this condition will depend on the growth of that intangible element "confidence".

Agriculture.—Aside from the south-central portion of the Prairies, improvement in the physical condition of Canadian agriculture continued during the year just ended. Crops in the Maritimes and Quebec were smaller than in the preceding year but Manitoba, Alberta, British Columbia, and Ontario were favoured with a larger output.

The cattle quota to the United States was filled at an earlier date than in 1936, and prices were considerably better. Some liquidation took place as a result of drought conditions in Alberta and Saskatchewan. The first half of 1937 was not a profitable period for live-stock producers in Ontario and western Canada, due to scarcity of feed and consequent high

prices. This situation was improved after the middle of the year by declining costs for feed and rising live-stock prices. Dairy production was well maintained, the factory cheese output, being 10 p.c. greater than in the first ten months of 1936; this more than offset the decline in creamery butter. In the first eight months of 1937 the prices of farm products were above parity with non-agricultural prices for the first time since 1929.

Mineral Production.—As the demand for base metals was greatly influenced by speculative considerations, Canada's producers in this line operated under favourable circumstances in the first half of the year. Later it was found that the expansion in production was more than sufficient to provide for actual or current requirements and a reaction occurred in the prices of copper, lead and zinc.

Canada's output of gold was more than double that of eight years ago, amounting to 3,017,300 ounces in the first nine months, an increase of 9.9 p.c. over the preceding year. An index of the volume of mineral production based on nine factors recorded a gain of 16 p.c. over the first ten months of 1936.

Forestry.—Operations in the forestry group of industries were greatly expanded in the year just ended. The production of newsprint reached a new high point in history, having been not far from the practical limit of capacity during the first ten months. Some accumulation of stocks was noted in the third quarter, a natural development in view of the rise in the contract price scheduled for the present year. The placing of operations on a five-day week tended to correct this development. The export of planks and boards at 1.6 billion feet was 13.3 p.c. greater than in the preceding year. The forestry industry is one of the largest employers of labour and it is gratifying to know that working forces in logging operations showed a gain of 37 p.c., while lumber and paper industries recorded advances of 12.5 p.c. and 10.9 p.c., respectively, over the first eleven months of 1936.

Manufacturing.—Manufacturing operations gathered momentum, the output having been 2·3 p.c. greater than that of the same period of 1929. The gain over the preceding year was 10 p.c., indicating the extensive nature of the recovery. Employment in manufacturing plants recorded improvement, the returns from the principal firms registering an average increase of 6·5 p.c. over 1936. The exports of manufactured and semi-manufactured goods at \$680,800,000 in the fiscal year ended March, 1937, showed a gain of 16·3 p.c. over the preceding year.

Construction.—Building operations were more active than in 1936 but pre-depression levels were far from equalled. Residential and industrial construction showed marked percentage gains while business building was less active. Building permits showed an increase of 35 p.c., while construction contracts awarded were 39 p.c. greater.

Power.—The power made available in Canada for ordinary use, computed by deducting the sum of exports to the United States and the amount supplied for use in electric boilers, was 15·2 billion kilowatt hours, a gain of 9·2 p.c. over 13·9 billion made available in the same period one year ago.



Design for Canadian Pavillon at the Empire Exhibition, Glasgow, 1938. Courtesy, Publicity Division, Dept. of T. & C.

External Trade.—A substantial advance in external trade was one of the constructive developments of the year. Total exports of merchandise were \$928,000,000 in the first ten months against \$806,000,000 in the preceding year, an increase of \$122,000,-000 or 15.2 p.c. A gain of 30.8 p.c. was shown in imports, the total in the ten months ended October having been \$675,000,000. Owing to the high level of exports, the balance of trade was very largely in Canada's favour.

Canadian trade with the United Kingdom showed further acceleration during the

year. Despite a falling off in the export of grains due to smaller crops, products valued at \$323,000,000 entered the British market in the first ten months of 1937, the greatest value for any like period since 1928. Imports from the United Kingdom were nearly restored to the levels of 1930. The active balance of trade was about \$200,000,000 in the ten-month period, facilitating payment of interest obligations to British investors.

With the United States, the total Canadian trade was over \$820,000,000 in the same period of 1937, representing an increase of more than \$190,000,000. Due to the larger increase in imports, the balance of trade with the United States in Canada's favour was reduced from the levels of 1936. Exports were nearly \$411,000,000 against \$329,000,000, while imports rose over \$108,000,000 to \$409,000,000.

A heavy balance of visible and invisible exports over imports has been a characteristic of the Canadian economy in recent years, although the decline in outward shipments of grain reduced the active balance during the first ten months of 1937. These surplus exports, chiefly in commodity trade and expenditures of visiting tourists, which have grown rapidly in the past two years, represent a corresponding outflow of capital. This has been mainly for the redemption of bond issues and for repurchases of Canadian securities and, as a consequence, the outlook is for an important reduction in external service payments.

Canada is by nature a mercantile country. Able to pour into the channels of commerce an increasing flow of raw and manufactured products, the Dominion must look to the outside world for markets in order to foster the profitable development of its natural resources and the growth of industries based thereon. Moreover, in order to maintain the standard of living, Canada must seek in all quarters of the globe a wide range of commodities which are either lacking here or may be produced only at abnormal cost.

CHAPTER I

THE TRANS-CANADA AIRWAY AND ITS RELATIONSHIP TO THE WORLD'S AIRWAY SYSTEM

The past decade has witnessed the creation of a world-wide system of communications by air. European air lines cover that continent with a network connecting all the principal centres and stretching out to the farthest confines of Africa, Asia, and Australasia. In North America, the United States airway system provides a similar network and has been extended to give rapid means of transportation to all points in Central and South America. The Pacific ocean has been spanned and South America connected with Europe. The only major trade route not regularly served by aircraft is the North Atlantic, but trial flights by British and United States aircraft are now proceeding and the establishment of a regular service for mails, passengers, and express will not be long delayed.

Canada's northern position in the Western Hemisphere is of the greatest importance. The shortest airways between North America and both Europe and Asia pass over her territory and her co-operation is necessary for their efficient development. Canada is directly interested in three of the principal airways in the world system-the Trans-Canada airway, the Trans-Atlantic airway and the northern route to Asia. It may be asked why the organization of these three routes has been delayed. The answer in each case is simple. Construction of the Trans-Canada airway has been retarded for financial reasons and because Canadian aviation was preoccupied with the development of northern Canada-a task of greater national importance than the inauguration of inter-city services in the Dominion. The transatlantic service, because of climatic and physical difficulties, is the stiffest problem of the world's airway system, but aeronautical science is now producing aircraft of the range and speed necessary to master its many obstacles. In the case of the northern route to Asia, unsettled political conditions in the Orient have made impossible any progress in its development.

To view Canada's air problem in proper perspective, it is necessary to consider the world development of civil aviation since the close of the Great War. At the outbreak of war in 1914, aviation was still in the experimental stage. Aircraft could be used for reconnaissance, however, and the air arm was rapidly extended during the War. All nations spent vast sums on their air forces and remarkable progress was made in the construction of aircraft. After the Armistice, the combatants were left with a huge aviation machine idle on their hands, with no outlet for its use in peace. It was as if the first thirty years of development of the motor car had been devoted entirely towards building tanks and armoured cars—as if no passenger cars or commercial vehicles had been designed and no highways or service stations built for their use. Many nations felt the necessity of developing a peacetime aviation, not only for the advantage it would bring in faster communication, but as a reserve for military needs. In most countries, and certainly in all European countries, the

sole available outlet was through inter-city air services for the rapid transportation of mails, passengers, and express. Such services were, in those early days (and to a large extent, still are) far from being self-supporting and their operation has been possible only by generous subsidies.

Conditions in Canada were very different. The Dominion was fortunate in having a fertile field for the development of a self-sustaining civil aviation in the vast hinterland north of the railways, where aircraft could play an important part in exploration, survey, and transportation. Before the advent of the aeroplane, the development of the resources of northern Canada was not possible because of the lack of efficient transport. This vast area contains some of the great river systems of the world and innumerable lakes. These provide ready-made landing grounds for seaplanes in summer and skiplanes in winter, so that no expensive aerodrome system is necessary. It was to this field that the efforts of Canadian aviation turned after the Armistice, and for ten years inter-city services were allowed to await the growth of public opinion and the progress of aeronautical science in the development of aircraft suitable for such traffic.



A New Trans-Canada Plane.—Several planes of this type have been ordered for the Trans-Canada Service.

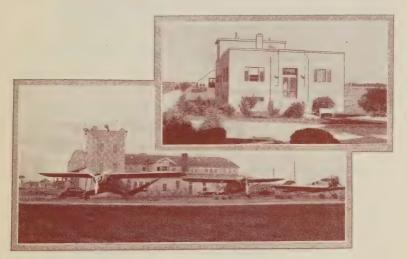
Courtesy, Canadian National Railways.

In 1928, Canada began to feel the effects of the building of the airway system of the United States. Connections with it had been established in the Maritime Provinces, at Montreal, Toronto, Windsor, Winnipeg, and Vancouver. At these points of contact, high speed traffic passing through Canadian channels was diverted south to the airway system of the United States, with consequent loss to Canada. Watching the trend of the times, the Canadian Government decided that surveys for the construction of a transcontinental airway serving the principal centres of industry and commerce could no longer be delayed.

The Trans-Canada Airway

Airway Facilities.—The term "airway" may be defined as the path of flight between two terminal airports on which have been installed permanent aids to air navigation. The nature of these aids to air navigation varies with the type of service required. For instance, the aids to air

navigation required on a transoceanic service differ materially from those required on a transcontinental system. Essential to both, however, are efficient weather and radio services. In North America a standard system of aids to air navigation has gradually been evolved. This is being closely adhered to in the construction and equipment of the Trans-Canada airway. Terminal airports, i.e., those where regular stops are made, should be all-way and all-weather fields, or should have three or more hard-surfaced runways, at least 3,000 feet in length, fully lighted with electric airway beacons, floodlights, boundary lighting systems to define the runways, range and approach lights to indicate the path of flight to the paved landing strips, and obstruction lights to define obstacles that might interfere with the clear approach to the airport. At a distance of about three miles there should be a radio-beam station, by means of which the pilot is guided along the airway and brought directly over the airport at the proper altitude for landing.

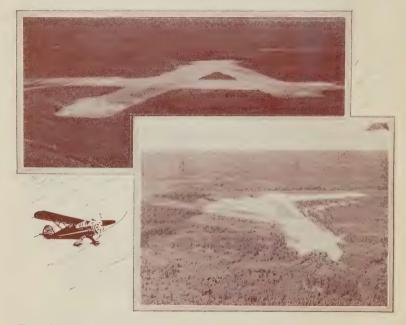


Edmonton Airport showing Commercial Aircraft in front of the Hangar ready to start for the North Country. Inset: Airways' Building at Vancouver Airport, constructed by the Department of Transport, Ottawa, to accommodate radio and meteorological services.

Courtesy, Civil Aviation Branch, Department of Transport.

A meteorological service is essential on every main airport. Such airports are in communication by teletype and radio with all weather-reporting stations in the district and with the Central Meteorological Bureau. From these sources general forecasts on weather which may be expected in the district are received four times daily. By study of the weather reports the local weather observer is in a position to give pilots leaving or approaching the airport information as to the weather which may be expected during flight. By means of two-way radio, aeroplanes in flight are given, every thirty minutes, the latest information on the weather, are controlled during their flight, given full information as to other aeroplanes flying in their vicinity, and advised when to land.

The first airways consisted of a chain of lighted intermediate landing fields spaced at intervals of from fifteen to forty miles apart along the path of flight between two terminal aerodromes. "Contact" flying was the rule and radio aids were non-existent. Of recent years the radio-beam system has become of paramount importance and with the introduction of multi-engined aircraft and high-altitude flight, the intermediate landing field has become relatively less important. Present practice requires radio-beam and two-way communication stations along the airway at intervals of about 100 miles between the terminal airports. Adjacent to these and directly in the path of flight secondary aerodromes are constructed. These are not necessarily stopping points but they afford a safe



Typical Trans-Canada Landing Fields in Unsettled Country between Airports.

Courtesy, Civil Aviation Branch, Department of Transport.

landing in case of need. They usually consist of two or three landing strips to serve the different directions of wind, at least 3,000 feet long and 500 feet wide, with clear approaches. A paved runway 150 feet wide is laid down the centre of the landing strip. These fields are lighted with boundary, approach and obstruction lights, as are the major terminals, and a meteorological observer is stationed at the aerodrome. The number of such additional intermediate aerodromes considered necessary for safety varies with the type of country. In open, settled, farm lands, where there are no mountains and where the weather is normally fine, they may be dispensed with altogether or spaced at intervals of about fifty miles between the major airports. Owing to the nature of the climate

and the difficult physical character of the terrain in the Rocky Mountain region and northern Ontario, where there are absolutely no alternative emergency landing places, the spacing averages about thirty miles.

These aerodromes are built to suit natural conditions. In the mountains a one-way strip may suffice. This is usually 500 or 600 feet wide. In the forested areas of northern Ontario, one, two or three strips approximately 3,000 feet by 500 feet have been cleared and graded to provide a safe emergency landing. These aerodromes are usually lighted for night flying but do not require radio or weather services.

Major Divisions of the Trans-Canada Airway.—Natural conditions divide the Trans-Canada airway into four distinct regions—the Mountain region, from the Pacific coast to the foothills in Alberta; the Prairie region, stretching from the foothills to the Ontario boundary; the Laurentian area, extending through western Ontario as far as the Ottawa valley; and the Atlantic section, which takes in the settled areas in the basin of the Great Lakes, the Eastern Townships of Quebec, and the Maritimes.

The Prairie region obviously presented the simplest construction and operating problems. There, precipitation is light, visibility normally good, contour changes are gradual, and aerodrome sites requiring little development were obtainable everywhere. The prairie cities, too, were active in airport construction and good terminals were coming into being at Winnipeg, Regina, Moose Jaw, Medicine Hat, Lethbridge, Calgary, Edmonton, Saskatoon, and North Battleford. Many of the smaller communities had offered to supply, free of cost to the Government, suitable sites for intermediate aerodromes.

Airway surveys commenced on the prairie section in the summer of 1928, and aerodrome construction and lighting installation followed. By the end of 1929, a chain of lighted aerodromes from Winnipeg to Edmonton via Regina and Calgary had been prepared and a contract for the carriage of mails had been let to Canadian Airways by the Post Office Department. Actual flying operations started on Mar. 1, 1930, with the operation of a nightly service each way. Five radio-beam stations, constructed in 1931, increased the efficiency of the airway materially. This service continued in regular operation with satisfactory results till Mar. 31, 1932, when, for reasons of economy in all services, it was temporarily suspended. Valuable experience in the survey and construction of the airway and its operation had been gained, however. It had proved that a regular service at all seasons of the year in Canada was possible, in spite of climatic difficulties. Traffic had grown steadily and gave promise that, if the airway could be completed from coast to coast, the venture would be self-sustaining. Although the operation of the trans-prairie service was stopped, the airway surveys then in hand in the mountains and in northern Ontario, Quebec and the Maritime Provinces were continued with a view to the eventual completion of the system from coast to coast.

In 1933, the urgent need for providing work for single homeless men led to the adoption of a scheme whereby such men could be cared for and given suitable employment on airway construction and other similar work. The location of intermediate aerodromes in the Mountain region and across northern Ontario had by that time been completed; this

enabled camps to be established and construction work put in hand at many points on the airway that autumn. Effort was intensified in 1934 and 1935; the necessity for employing hand labour and the lack of suitable construction machinery, however, made much of the work uneconomical. On June 30, 1936, the unemployment relief camps were closed and the Civil Aviation Branch continued construction work by day labour and contract. Since then the employment of machinery has made for faster progress and more economical development.

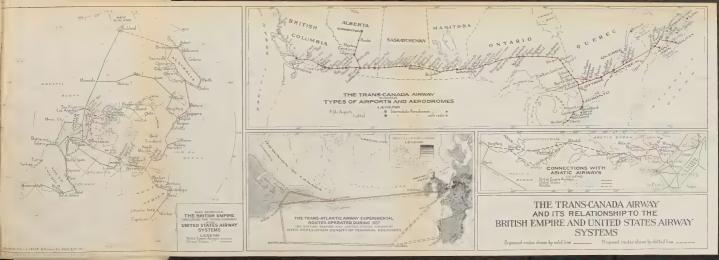
Preliminary development on practically all aerodromes west of Montreal is now completed and while further construction work is required on some of the key airports to bring them up to the high standard of construction required, the route may now be flown safely in daylight hours. The installation of the radio-beam and two-way radio systems is proceeding as quickly as deliveries from the manufacturers can be obtained. The airway lighting program is also well in hand.

Regular operations from Vancouver to Winnipeg—the western half of the airway—are now possible, and, if there is no undue delay in delivery of the airway equipment and aircraft required, the airway should be in shape for regular operation at all seasons of the year, both night and day, from Vancouver to Montreal by midsummer, 1938. The Atlantic section, east of Montreal, is not so far advanced but by the close of another construction season this too should be ready for regular operation.

An Act creating a national operating company—Trans-Canada Air Lines—for the operation of the Trans-Canada system was passed by Parliament in 1937, and this corporation has now been organized and is beginning to function. Time is required to build up such an organization but already it is operating the Seattle-Vancouver air mail service and using this service as a training ground. As aircraft now on order are delivered, Trans-Canada Air Lines will extend its operations until they include the whole system from coast to coast.

The increase in landing speed and the introduction of night and all-weather flying necessitate larger airports, with longer clear approaches and improved surfaces. Airports which were adequate five years ago no longer suffice. The Department of Transport is co-operating with the municipal authorities in all parts of the country to provide air terminals of the required standard and is giving generous assistance for this purpose. Grants have already been made to Vancouver, Lethbridge, Edmonton, Regina, Winnipeg, and Toronto and agreements are now under consideration with several other municipalities for similar co-operation so that first-rate airports may be available at all the principal traffic centres.

When the various construction programs now in hand are completed, Canada will have a transcontinental airway system equal to any in the world. It will serve all the principal industrial centres in the Dominion and its effect on the social, political and commercial life of the Dominion will be very marked. Vancouver and all the prairie cities will be reached overnight from Montreal and Toronto. To the Maritime Provinces will be an afternoon or evening flight from Ottawa. Trade and intercourse between Eastern, Central, and Western Canada will be greatly facilitated and another tie binding closer the scattered provinces of Canada will have been brought into being.



THE TRANS-CANADA AIRWAY AND ITS RELATIONSHIP TO THE BRITISH EMPIRE AND UNITED STATES AIRWAY SYSTEMS

6

The map of the World on the zenithal projection illustrates the relation of Canada to the world's airway system and shows her advantageous position clearly. On a map of this scale it is not possible to show the system in more than skeleton form and even major lines are not all shown.

The connection of Canada's transcontinental airway with the shortest route across the Atlantic is shown on the third map; and Trans-Canada Air Lines, the national operating company, will be a direct participant in the transatlantic operation. Through efficient north and south connections in the Maritime Provinces, at Montreal, Toronto, Windsor, Winipeg. Lethbridge, and Vancouver, the system will give ready access to southbound traffic over the United States system and the airways to Central and South America. Air commerce for North America from the European, African, Asian, and Australasian systems will pass by the direct route across the Atlantic, through Canadian terminals, and thence to all points in Canada and, in addition, to points in southern, central, and western United States. Through a system of feeder lines, it will serve the few important cities not now on the main line and also connect with the immense traffic now handled by existing services to the northern mining areas, which are to-day the greatest non-subsidized air traffic systems in the world. Through its connections on the Pacific coast, it has access to the existing transpacific service to eastern Asia and New Zealand and already the North American section of the direct airway of the future to the Far East is well established. With these advantages, a bright future seems assured to Trans-Canada Air Lines.

The Trans - Atlantic Airway

The Trans-Canada airway is not only of domestic importance to Canada, but is of international significance as a link between the Trans-Atlantic airway and the direct northern route to Asia of the future.

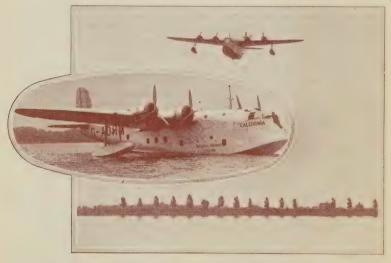
The North Atlantic trade route is perhaps the most important in the world. It joins the greatest centres of population and industry of the Old and New Worlds. This trade route is now served by the most highly efficient transport and communication systems in the world and here, if anywhere, is to be found traffic of sufficient value and quantity to justify the establishment of a commercial air service. The great circle track, or shortest route joining these two great industrial districts, passes down the Rhine Valley, through northern France and Belgium, London. northern Ireland, the Straits of Belle Isle, Montreal, the valley of the St. Lawrence and thence to the Mississippi basin. The eastern and western terminals of the direct Trans-Atlantic airway lie in the British Commonwealth and from the earliest days of aviation the Canadian Government has watched its development with growing interest.

Even before the War, in the summer of 1914, plans for a transatlantic flight were being perfected by Lieutenant John Porte, R.N. Immediately after the War the long series of transatlantic flights began. with the first direct crossing by Alcock and Brown in 1919. The first airship flight over this route was made in September, 1919, by Scott in H.M. Airship "R 33". It was repeated when "R 100" visited this country in the summer of 1930. The length of the ocean crossing and the climatic difficulties have delayed the establishment of any regular service by this route, but, with the advance of aeronautical and radio science and improved meteorological services, these are being conquered.

The difficulties of the direct route have brought into consideration two alternatives, known, respectively, as the Arctic and the Southern routes. The former, also over Canadian territory, has the advantage that it avoids the long ocean crossing by using a series of bases in northern Quebec (or Labrador), Baffinland, Greenland, Iceland, and the Faroe islands to Scotland or Norway. The maximum flight between such bases does not exceed 500 miles, which is well within the capabilities of aircraft now in use. This obvious advantage has caused expeditions by Canadian, United States, British, German, and Italian interests to explore its possibilities. The drawbacks are the severe climate; the shortness of the summer season; the inaccessibility, during many months of the year, of some of the bases; and the short duration of daylight in the Arctic during the winter months. Moreover, the route does not provide a really short route between the main centres of population and industry, such as Montreal, Toronto, and New York on this continent, and London, Paris, and Berlin in Europe, though admittedly it gives a direct route between San Francisco, Edmonton, or Vancouver, and points in Scandinavia or Russia. The Southern route is not of direct interest to Canada. It passes from the eastern coast of the United States to Bermuda, thence by a long flight of 2,200 miles to the Azores and thence to Lisbon. The climate is preferable to the more northerly routes, but its greater length is a handicap and will necessarily mean higher maintenance and operating costs; the Azores, moreover, do not provide a satisfactory seaplane base.

As a first step towards the development of the direct route, a combined air and steamer mail service has been operated between Rimouski and Montreal since 1927. This was extended to the Straits of Belle Isle, Montreal, and Ottawa during the Imperial Conference in Ottawa in 1932. By means of this service, one-third of the total journey from Montreal to London was made by air and, by using aircraft then in common use and the ordinary steamers on the route, a four-day mail service from London to Ottawa resulted. With the advent of aircraft capable of flying regularly between Ireland and Newfoundland, the usefulness of this ship-to-shore service will cease.

An agreement for co-operation in the establishment of a transatlantic air service by the Governments of Canada, the United Kingdom, the Irish Free State, and Newfoundland was reached by representatives of these Governments in Ottawa in December, 1935. Such an airway is of vital importance to the United States and for many years their aviation staffs have explored its possibilities. Since the friendly co-operation of United States interests, rather than the institution of a rival service, was highly desirable, at the close of the Ottawa Conference in December, 1935, the representatives of the Commonwealth Governments proceeded to Washington and an agreement was reached with representatives of the United States Government for their co-operation in the institution of a regular transatlantic air mail, passenger, and express service. The practical results of these two conferences are the trial flights which have been made by



The Caledonia, Imperial Airways' long-range flying-boat, which, with Clipper III of the Pan American Airways, pioneered the experimental phase of the North Atlantic Commercial Airway Route. The picture shows the Caledonia as she appeared high in the air near Montreal on July 8, 1937. Inset: A view of the Caledonia at rest. The relative size of the officer on the nose of the machine gives an idea of the proportions of the ship which weighs 22½ tons when fully loaded, is powered with four engines each developing 900 h.p., and has a maximum speed of 200 m.p.h.

Courtesy, Canadian Official News Bureau, London, England, and Trans-Canada Air Lines.

aircraft of Imperial Airways and Pan American Airways during the past summer. The uninterrupted success of these trial flights and their regularity inspire confidence that, in a relatively short time, commercial transatlantic services will be in operation.

Canada's share in the trial flights has been confined so far to the provision of seaplane bases, meteorological and radio services in Canada and, as regards the two services last named, in Newfoundland as well. The actual trial flights have been made by Imperial and Pan American Airways. Under the Ottawa Agreement, when the trial flights justify the establishment of a regular service, a joint operating company will be formed by Imperial Airways, Trans-Canada Air Lines and a company nominated by the Irish Free State for the permanent operation of the route. Negotiations are now proceeding between the three companies for the establishment at an early date of such a joint operating company.

The Trans-Pacific Airway

The Pacific crossing is not of the same urgency or importance as the Atlantic crossing and has not received the same attention from Canada. A regular weekly air mail, passenger, and express service has now been operated from San Francisco to Manila via Honolulu by Pan American Airways for over a year. The most direct route to the Orient is, however, by northwestern Canada and Alaska, across the Bering Strait to Siberia. Unsettled political conditions in northeastern Asia have, up to the present, made its development impossible, but the extension of European air lines to the Far East will greatly affect North American lines of communication and will, before long, force this route into prominence for the protection of Canadian and American interests in transpacific commerce.

An alternative coastal route from Seattle and Vancouver northwards along the British Columbian and Alaskan coasts, by the Aleutian and Kurile islands direct to Tokyo has been considered. This route, however, is a very difficult one owing to the adverse climate; the prevalence of rain, fog and storms makes flying on schedule almost impossible and it is felt that the route east of the mountain barrier which parallels the Pacific coast provides a safer and more dependable passage.

In June, 1937, the Canadian Government let a contract for a weekly air mail service between Edmonton and Whitehorse, Y.T. This gives rapid communication to Yukon and Alaska. Edmonton is on the Trans-Canada airway and Whitehorse is already connected with the airway system of Alaska, reaching as far as Nome on the shores of Bering Strait. The whole North American section of the northern route to Asia is, therefore, already under regular operation. It only requires further aids to air navigation to make it capable of high speed operation at all seasons of the year. When settled political conditions prevail once more in eastern Asia, this route will come rapidly into prominence, as it is much shorter than the Honolulu route and has not the disadvantage of the long, uneconomical ocean flights.

Canada's railways, her steamship services on the Atlantic and Pacific, telegraph and telephone services and radio have a world-wide reputation for high standards of service. They have all been pioneered by Canadians and Canadians can be depended upon to duplicate the same leadership in the air. 45174—21

CHAPTER II

WEALTH, PRODUCTION AND INCOME— CAPITAL INVESTMENTS

National Wealth

The economic concept of national wealth is concrete since economics is not able to take cognizance of the immense field of intangible wealth created by churches, schools and other institutions, nor of such things as



Molten Iron being Tapped from the Blast Furnaces into Ladles, to be later Converted into Steel in the Open Hearth Furnaces.

Courtesy, Algoma Steel Corporation, Limited, Sault Ste. Marie.

climate, location, health, etc., which are often referred to as wealth, but in a different sense from that meant here. The definition includes all our farms, factories, equipment, merchandise in stock, real estate, roads, highways, developed resources and the thousand and one material things which we as a nation possess.

Great difficulty arises when we try to reduce all the things which go to make up this wealth to a common denominator for statistical purposes. National wealth must always be expressed in terms of the national currency. Yet the purchasing power of the currency unit is always fluctuating and, since 1929, had at one point increased by more than 50 p.c. (February 1933) in terms of wholesale prices. For 1930, the average index of wholesale prices was down by nearly 10 p.c. from 1929, while in December of 1930 the index was 19 p.c. lower than in December of 1929. The index continued to decline until February, 1933—the lowest point of the depression, though there has been definite improvement since then.



A Flour Mill and Grain Elevator in the Keewatin District of Ontario.

Courtesy, Royal Canadian Air Force.

The effect of such drastic reductions in prices is first felt by the commodities which are being currently produced. Ultimately a persistent decline affects capital values of real estate, buildings, machinery, etc., and its influence is felt in a reduction in the value of national wealth.

The first official estimate issued by the Dominion Bureau of Statistics was for 1921, being based on the census data collected in that year. It placed the national wealth at \$22,195,000,000. Later estimates were \$25,673,000,000 for 1925 and \$27,668,000,000 for 1927. The estimate for 1929 was \$31,276,000,000, and the 1933 estimate \$25,768,000,000. The former presents a picture at the peak of domestic prosperity, whereas that of 1933 reflects the writing down of values resulting from the depression. Until values have become stabilized on a post-depression basis, it is not expected that another estimate will be made.

The following table shows the national wealth of Canada, by items, as in 1933.

Estimate of the National Wealth of Canada as in 1933

Classification of Wealth	Aggregate Amount	Percentage of Total	Average Amount per Head of Population
	\$	p.c.	\$
Agricultural wealth (farm values and agricultural			
products in possession). Mines (capital employed).	5,563,790,000 800,292,000	21·59 3·10	520·90 74·93
Forests (estimated value of accessible raw materials,		3.10	74.93
pulpwood and capital invested in woods operations)	2,090,821,000	8.11	195.75
Fisheries (capital invested in boats, gear, etc., in primary operations)	25,380,000	0.10	2.38
Central electric stations (capital invested in equip-		F 00	100.00
ment, materials, etc.)	1,309,801,000	5.08	122-63
capital in rural lands and buildings)1	949,721,000	3.69	88.92
Manufactures (materials on hand and stocks in process) ¹ Construction, custom and repair (estimated invest-	368,070,000	1.43	34.46
ment in machinery and tools and materials on hand)	32,385,000	0.13	3.03
Trading establishments (estimated value of furniture,	700 040 000	0.75	0.0
fixtures, delivery equipment and materials on hand) Steam railways (investment in road and equipment)	708,043,000 3,365,464,000	$2.75 \\ 13.06$	66 · 29 315 · 09
Electric railways (investment in road and equipment)	223,704,000	0.87	20.94
Telephones (cost of property and equipment)	330,491,000	1.28	30.94
Urban real property (assessed valuations and exempted property and estimate for under-valuation by			
assessors and for roads, sewers, etc.)		26.83	647.27
Canals (amount expended on construction to Mar. 31,	0,010,000,000	20 00	011 21
1934)	267,671,000	1.04	25.06
	502,264,000	1.95	47.02
Shipping (including aircraft)	135,506,000	0.53	12.69
Automobiles (estimate of the value of automobiles		0 00	12.00
registered)	392,211,000	1.52	36.72
Highways, etc	689,333,000	2.68	64.54
from production and trade statistics)	913,397,000	3.54	85.52
Specie, coin and other currency held by the Govern-			
ment, chartered banks and the general public	186,362,000	0.72	17-45
Totals	25,768,236,000	100.00	2,412.53

¹ Duplication excluded.

Aggregate and Per Capita Wealth by Individual Provinces, 1933.—

As regards the provincial distribution of wealth in 1933, Ontario ranked first with an estimated aggregate wealth of \$8,796,000,000 or 34·14 p.c. of the total; Quebec second with \$6,738,000,000 or 26·15 p.c.; Saskatchewan third with \$2,527,000,000 or 9·81 p.c.; and British Columbia fourth with \$2,431,000,000 or 9·43 p.c. of the whole. While Ontario and Quebec led in absolute wealth, the western provinces came first in per capita wealth. British Columbia held first rank with a per capita wealth of \$3,414, Alberta second with \$2,689, and Saskatchewan third with \$2,657.

Production

Under the term "production" are usually included the activities of agriculture, fishing, mining, forestry, trapping, power development, manufactures and construction. This does not imply that many other activities such as transportation, merchandising, personal and professional services, are not also "productive" in a broad economic sense. It is customary, however, to regard the processes involved in the creation of materials or

their making over into new forms as constituting "production" in a special sense. Of this a bird's-eye view is given in the table on p. 24, which shows the gross and net value of production in each of the divisions of industry above mentioned. In a second table on p. 25, a summary of the value of total production in Canada is given by provinces.

A distinction is made between gross and net production. By net production is meant the value left in the producer's hands after the elimination of the value of the materials, fuel and purchased electricity consumed in the process of production. This net figure is a much better criterion for measuring the value of an industry than the gross.



An Apple-Packing Plant in British Columbia.

Courtesy, Canadian Government Motion Picture Bureau.

After recording successive declines for five years, the net value of production turned upward in 1934 to register a substantial gain over the preceding year. This advance was continued in 1935 when the net value of commodities produced, as estimated by the Dominion Bureau of Statistics on the basis of data compiled by its various branches, was \$2.395,000,000 compared with a revised estimate of \$2,234,000,000 for 1934. The gain of over 7 p.c. represents the marked betterment in productive operations over the preceding year. Each of the nine main branches of production participated in the advances of 1934 and 1935. The greatest absolute gains were recorded in manufacturing and agriculture, but the largest percentage increases were in mining and forestry. Primary production showed a better percentage gain than secondary, indicating a decided revival in the production of raw materials.

Mining continues to be the most progressive of Canadian industries and has extended year by year the upturn commenced in 1933.

While certain changes in method prevent exact comparability with previous years, the net output of agriculture in 1935 was greater than in any other year after 1930. The increase over 1934 was \$30,600,000 or 5·2 p.c., the total reaching \$623,000,000.

The percentage gain in the value of manufacturing was on a par with that in agriculture, the net total advancing 5.7 p.c. or \$69,300,000 over the comparable figure for 1934. Manufacturing continued to be the predominant factor in Canadian production, having assumed a definite precedence over agriculture in net value since 1925. Agricultural production in 1935 represented 26 p.c. of the net output of all branches of industry while the corresponding figure for manufactures, after eliminating duplication, was nearly 40 p.c.

Price and volume indexes indicate that a decided further gain in net production occurred in 1936. The index of wholesale prices averaged 3·3 p.c. higher than in the preceding year, and the gain in the index of industrial production was 10·4 p.c. In the same period, the index of general employment recorded an advance of 4·3 p.c. The increases in these indexes indicate a general betterment of at least 10 p.c. over 1935.

Summary, by Industries, of the Value of Production in Canada, 1934 and 1935

Note.—The figures given in this table are subject to minor technical qualifications which, however, do not influence their value for general use. The interested reader is referred for details to the footnotes to p. 214 of the Canada Year Book, 1937.

Industry	19	34	1935		
industry	Gross	Net	Gross	Net	
	\$	\$	\$	\$	
Agriculture. Forestry Fisheries. Frapping Mining Electric power Totals, Primary Production.	1,006,257,616 313,659,369 45,661,143 8,636,885 344,978,399 124,463,613	592,195,000 208,207,484 34,022,323 8,636,885 209,073,789 122,461,993	1,019,866,099 344,758,018 45,386,749 8,877,331 429,817,259 127,177,954	622,772,000 227,500,346 34,427,854 8,877,331 238,581,268 125,123,078	
Construction	186,198,890 87,646,270 2,533,758,954 2,807,604,114	115,406,755 62,444,353 1,222,943,899	215,548,873 97,109,740 2,797,400,424	120,815,289 66,454,802 1,292,242,142	
Grand Totals ¹	4,031,421,085	2,233,697,018	3,110,059,037 4,398,333,710	1,479,512,23 2,394,720,68	

 $^{^1\,\}rm Excluding$ duplication due to the figures for ''Manufactures'' containing items already included under primary production.

Relative Production by Provinces.—In 1935, Ontario continued to hold the lead among the nine provinces in the creation of new wealth, producing 43·7 p.c. of the Dominion total compared with 43·4 p.c. in 1934. Quebec followed with an output of 25·4 p.c. on the revised basis against 25·6 p.c. in the preceding year. British Columbia and Alberta were in third and fourth places with 7·8 p.c. and 6·5 p.c., respectively.

APPLE BLOSSOM TIME "ACADIE"



The Annapolis Valley, N.S., is known the world over for its apples. The annual Apple-Blossom Festival attracts great interest locally; the centre picture of the layout shows Queen Annapolis Valley V with her Attendants at the 1937 Festival Above is a view of a fertile section of the famous Annapolis Valley.

BEÁUTY SPOTS IN EÁSTERN CÁNÁDÁ



Reading from left to right the layout shows Upper Row. Cap des Rossers, a village on the Gaspe Peninsula, P.Q.: Percé with the well known Rock and, in the mackaround Bonaventure Island, P.Q.: and the Kildare Capes, Prince County, P. E. I. Middle Row. Beautiful Baddeck on the Bras d'Or Lakes, Cape Breton Island: Evangeline Park, Grand Pré, N.S.: and the lighthouse on Peggy's Point near the picturesque village of Peggy's Cove, N.S. Lower Row. The estuary of the Dartmouth River, P.Q. evening on Pictou Harbour, N.S.: Brackley Beach, near Charlottetown, P.E.I.: and swarms of birds on the rock ledges of Bonaventure Island, Gaspe Peninsula, P.Q.

HANDICRAFTS IN QUEBEC



Home handicrafts conducted on a commercial basis are more characteristic of Quebec than of other provinces. Reading downwards, the picture illustrates: (1) a French-Canadian family with their quaint spinning wheel and dog cart: (2) the making of hooked rugs and a display of finished work to catch the eyes of tourists; (3) bread-baking in an oven out-of-doors; and (4) basket weaving.

Saskatchewan increased her contribution from 4·8 p.c. to 5·7 p.c. Manitoba, Nova Scotia, New Brunswick, and Prince Edward Island followed in the order named.

The per capita net commodity production of Ontario was nearly \$286 in 1935 compared with \$268 in 1934. British Columbia produced about \$250 for every citizen, while Alberta ranked third with a per capita figure of \$203. Quebec averaged \$198; Nova Scotia, \$160; Saskatchewan, \$146; Manitoba, \$144; New Brunswick, \$143; and Prince Edward Island, \$124.

Summary, by Provinces, of the Value of Production in Canada, 1934 and 1935

ъ :	193	4	1935		
Province	Gross	Net1	Gross	Net1	
	\$	\$	\$	\$	
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario. Manitoba. Saskatchewan Alberta. British Columbia ² .	17,864,849 131,399,711 98,679,310 1,058,503,197 1,794,724,551 195,670,759 191,335,124 255,549,707 287,693,877	10,181,232 76,628,789 55,404,590 572,339,409 971,143,305 106,321,772 106,960,920 162,784,883 171,932,118	19,052,646 144,918,904 106,307,360 1,137,261,900 1,984,461,443 207,187,939 223,428,756 250,995,852 324,718,910	11,059,670 84,186,607 61,184,408 607,222,088 1,050,064,179 102,442,520 136,374,256 155,098,955 187,087,998	
Tota's	4,031,421,085	2,233,697,018	4,398,333,710	2,394,720,68	

¹ Gross value minus cost of materials, fuel and purchased electricity consumed in the production process.

² Including Yukon.

National Income

The exact measurement of the national income is, of course, an impossibility. There must always be a margin of error in estimates of this kind apart from the fact that, as in the case of national wealth (see p. 21), values have to be measured in dollars, whereas the fluctuations in the price level change the purchasing power of those same dollars from year to year. Moreover, non-money incomes are more common in Canada than in some older countries of the white man's world and in rural areas constitute a very important part of the total income of most families.

A partial total of national production is given in the general survey of production immediately preceding this section, but according to the Census of 1931, the workers engaged in the actual production of commodities were only five-eighths of the total gainfully occupied population. The other three-eighths of the workers may be considered equally as productive in the broad sense. Such a conclusion is verified by the large volume of statistics regarding distributive workers which is now available through the Census of Merchandising.

. The total recorded estimated net production of commodities for 1935, as given on p. 24. is \$2,394,720.688. If five-eighths of the gainfully occupied of the nation may be said to produce a net product valued at \$2.394,720,688, then by taking eight-fifths of this we get the estimated total of \$3.831,553,000 as the value of production of all the gainfully occupied.

In order to arrive at an estimate of national income from these figures of total production, items such as depreciation of equipment engaged in production, the net balance of interest payments payable from outsiders to Canadians and from Canadians to outsiders, etc., must be considered.

Depreciation of capital equipment is offset by the consumption of materials on maintenance, which go into production but do not show as products thereof, and by the fact that no allowance has been made in the estimate of total production for the value of garden produce, poultry, etc., raised by householders,* for casual earnings, and for other means by which national income is increased.

The balance of interest and dividend payments due to outsiders is carefully estimated by the Bureau of Statistics each year. For 1935 the figure was \$219,000,000. Subtracting this from \$3,831,553,000, the 1935 income of the Canadian people may reasonably be placed at \$3,622,954,000, which compares with the revised figure of \$3,362,315,000, worked out on the same basis for 1934.

There are ways of estimating national income on other bases than that of production which has been employed here. The problem was approached from several other angles by the Bureau of Statistics for the year 1930 and it was found that the results checked very closely.

Incomes Assessed for Income War Tax in Canada.—In those countries of the world where an income tax has been established for a considerable time, the figures of the assessed income have been generally accepted as furnishing a guide both to the amount and to the distribution of the total national income by classes. Estimates of the national income, based upon income tax statistics, have been published, for example, in the United Kingdom and in the United States.

In Canada the income tax is a more recent innovation than in either of the above-mentioned countries; also, in a newer country, incomes are to a greater extent received in kind. Nevertheless, the data collected by the Income Tax Branch of the Department of National Revenue, are significant both with regard to the total income assessed and with regard to the distribution of that income among various classes of the population.

In the fiscal year ended 1936, individuals and corporations paid Dominion income tax on 1934 incomes aggregating \$1,133,440,034, so that for that year slightly less than one-third of the national income (estimated as \$3,614,147,000 in 1934) would appear to have been subject to income tax by Dominion authorities.

As regards the amount of income tax paid by various income groups, it is noteworthy that, in 1936, about 33 p.c. of the amount collected from individuals with classified incomes (\$33,057,550) was from those with incomes of \$50,000 or over (such individuals might be considered as in the millionaire class and numbered only 304 out of a total of 199,102 individual taxpayers). The percentage of the gross total receipts contributed by this class in 1935 was nearly 26 p.c. On the other hand, individuals with incomes under \$10,000, who numbered 192,654, or about 97 p.c. of total individual taxpayers in 1936, contributed 26 p.c. of the total for that year

^{*} Such produce to the value of nearly \$19,000,000 was raised elsewhere than on farms in 1930, according to the Census of 1931.

as compared with 31 p.c. of the 1935 total. In the case of corporations, those with incomes of \$50,000 or over contributed by far the major part (over 84 p.c.) of the total gross receipts (\$42,933,281) from all corporations, but the number of such companies was a very much higher proportion of the total than in the case of individuals.

British and Foreign Capital Invested in Canada

In the opening decades of the century, the marked expansion in Canada was largely based on capital imported from the United Kingdom. at least \$1,500,000,000 being imported during 1900-12. During the War the latent capital resources of Canada itself were for the first time exploited on a large scale, nearly \$2,000,000,000 being raised by the Dominion Government. After the War the outstanding development was the growth of United States investments in Canada. This inflow of capital was not confined to capital coming through the sale of Canadian securities in New York. A substantial part of the flow was the capital invested directly in Canada by United States corporations. Some of this was for the establishment of new industrial enterprises and some was for the development of existing direct investments. These investments in Canada owned in the United States were estimated to have increased to \$4,298,000,000 in Since then there has been a decline in the value of these invest-1930. ments, the result of the redemption of securities owned in the United States, changes in the value of equities, etc. In comparison, the changes in the value of British investments in Canada are less marked since 1919.

Capital Invested in Canada by Other Countries

(In millions of dollars)

Country	19141	19192	19262	19302	1935°	19362
United Kingdom United States Other Countries Totals	2,712	2,607	2,598	2,766	2,729	2,725
	904	1,800	3,161	4,298	4,045	3,985
	178	173	132	132	124	124
	3,794	4,580	5,891	7,196	6,898	

i Estimated by various authorities.

In spite of this large external indebtedness, Canadian capital controls a very large proportion of the business capital of enterprises operating in Canada.

In considering these statistics of outside capital invested in Canada, it should also be borne in mind that Canada has large investments in other countries. The Bureau estimates that Canadian investments in other countries amounted to \$1,656,000,000 at the end of 1936. Of this, \$987,000,000 was invested in the United States, \$48,000,000 in the United Kingdom, and \$621,000,000 in countries other than these. This does not include the assets of Canadian insurance companies held abroad, as there are also liabilities abroad which must be considered in connection with these assets.

² Estimated by Dominion Bureau of Statistics.

CHAPTER III

POPULATION—BIRTHS, DEATHS AND MARRIAGES

Population

The population of the earth is estimated at approximately 2,000,000,000.* The British Empire, which covers slightly less than one-quarter of the land area of the earth, has slightly less than one-quarter of the world's population. Canada, which occupies over one-quarter of the



Vancouver, Third Largest City in Canada, from the Harbour at Night.— Greater Vancouver has a population of 310,000 and is Canada's gateway to the Pacific.

area of the British Empire, has only about one forty-eighth of the Empire population. While there is no absolute standard for population density, so much depending on extent of resources, the rate of increase in productivity of land as a result of invention, etc., a certain minimum density is desirable and even necessary to effective social and political life. As far as Canada is concerned such a minimum effective density is far from having been attained in the country as a whole.

Areas and Populations of the British Empire and its Principal Component Parts for 1931, or Nearest Year Available

(Source, Canada Year Book, 1934-35. The figures are subject to certain qualifications which however, do not affect their usefulness in a broad way. For such qualifications, the interested reader is referred to the footnotes to p. 167 of the 1934-35 Year Book.)

Country	Area in Sq. Miles	Population, circa 1931
British Empire. United Kingdom of Great Britain and Northern Ireland.	93,991	492,621,046 46,042,000
Irish Free State. Canada. Union of South Africa.	3,694,900	2,957,000 10,376,786 8,132,600
Australia. New Zealand.	2,974,581 103,415	6,629,839 1,442,746
Newfoundland and Labrador		281,549 351,399,880

^{*} The Statistical Year Book of the League of Nations, 1936-37, gives the population of the world as 2,095,000,000 not including estimates of certain populations, chiefly in Asia and Africa, where censuses are incomplete or do not exist.

Growth of the Canadian Population, 1871-1931.—The first census after Confederation (1871) saw the Dominion launched with a population of 3,689,257. After 1873, and until the end of the century, economic conditions within the Dominion were anything but buoyant. The Censuses of 1881, 1891 and 1901 reflected this state of affairs. That of 1881 showed a gain of 635,553 or 17·23 p.c., but in neither of the next two decades was this record equalled, the gains in each being under 550,000 or 12 p.c. At the end of the century the population of Canada had reached but 5½ millions, though expectation had set a figure very much higher.



A Settlement on Gaspe Peninsula.—Looking across Gaspe Basin, P.Q.

Courtesy, Canadian Government Motion Picture Bureau.

Statistics of Population in Canada, Census Years 1871 to 1931

Province or Territory	1871	1881	1891	1901	1911	1921	1931
Prince Edward Island Nova Scotia New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia. Yukon. N.W.T.! Canada.	94,021 387,800 285,594 1,191,516 1,620,851 25,228 - 36,247 48,000 3,689,257	108,891 440,572 321,233 1,359,027 1,926,922 62,260 - 49,459 56,446 4,324,810	109,078 450,396 321,263 1,488,535 2,114,321 152,506 - 98,173 98,967 4,833,239	103,259 459,574 331,120 1,648,898 2,182,947 255,211 91,279 73,022 178,657 27,219 20,129 5,371,315	93,728 492,338 351,889 2,005,776 2,527,292 461,394 492,432 374,295 392,480 8,512 6,507 7,206,643	88, 615 523, 837 387, 876 2, 360, 665 2 2, 933, 662 610, 118 757, 510 588, 454 4, 524, 582 4, 157 7, 988 8,787, 949 3	88,038 512,846 408,219 2,874,255 3,431,683 700,139 921,785 731,605 694,263 4,230 9,723

¹ The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan, and Yukon and to extend the boundaries of Quebec, Ontario, and Manitoba.

² Revised in accordance with the Labrador Award of the Privy Council, Mar. 1, 1927.

³ Includes 485 members of the Royal Canadian Navy

The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that decade of any country in the world. In the second decade the rate was 22 p.c., again the greatest with the one exception of Australia, where growth was greater by a fraction of 1 p.c. A century earlier the United States grew 35 p.c. decade by decade until 1860, but with this exception there has been no recorded example of more rapid population growth than that of Canada in the twentieth century. In 1871, only 2.97 p.c. of the population dwelt west of the Lake of the Woods. In 1921 the proportion was 28.37 p.c. and in 1931, 29.51 p.c.—3,061,745 people compared with 110,000 at Confederation.

Rural and Urban Population.—As regards rural and urban distribution, though Canada is still largely agricultural, town dwellers now, for the first time, exceed the numbers living upon the land (5,572,058 urban and 4,804,728 rural in 1931). Sixty years ago the towns and cities of Canada accounted for only 19.58 p.c. of the people (722,343 urban and 2,966,914 rural), and at the beginning of the present century the percentage was but 37. In 1871 the Dominion had 14 cities, 49 towns and 134 villages; in 1921 there were 101 cities, 461 towns and 881 incorporated villages; and in 1931, 112 cities, 476 towns and 1,017 incorporated villages. It is the larger cities that have grown the fastest. Preliminary figures of the Quinquennial Census of the Prairie Provinces, 1936, shown on p. 32, indicate that many of the cities and towns in these provinces have lost thousands of people and so also have the drought-stricken areas. On the other hand, rural areas generally and especially the more northerly sections show increases. Out of every 1,000 persons in the country, 463 were resident, on June 1, 1931, in rural and 537 in urban communities, as compared with 505 in rural and 495 in urban communities on June 1, 1921. The table below shows rural and urban population, by provinces, for 1921 and 1931. The populations of cities and towns having 25,000 inhabitants or over are given by censuses in the table on p. 31.

Rural and Urban Populations, by Provinces, 1921 and 1931

Province or Territory	19	21	19	31	Numerical Increase in Decade 1921-31		
	Rural	Urban	Rural	Urban	Rural	Urban	
Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan Alberta. British Columbia Yukon. Northwest Territories. Royal Canadian Navy.	263,432 1,038,096 1,227,030 348,502 538,552 365,550 277,020 2,851		67,653 281,192 279,279 1,060,649 1,335,691 384,170 630,880 453,097 299,524 2,870 9,723	20,385 231,654 128,940 1,813,666 2,095,992 315,969 290,905 278,508 394,7391 1,360	- 1,869 -15,607 15,847 22,553 108,661 35,668 92,328 87,547 22,504 19 1,735	1,292 4,616 4,496 491,037 389,360 54,353 71,947 55,604 147,177	
Canada	4,435,827	4,352,122	4,804,728	5,572,058	368,901	1,219,936	

¹ This includes South Vancouver and Point Grey, with 1921 populations of 32,267 and 13,736, respectively, which were then classified as "rural".

² Members of the Royal Canadian Navy were counted at their homes in the Census of 1931.

Populations of Cities and Towns having over 25,000 Inhabitants in 1931, Compared with 1891, 1901, 1911 and 1921

Note.—In all cases the populations for previous censuses have been re-arranged as far as possible to compare with those of the same areas in 1931.

City or Town	Province	Populations					
City or Town		1891	1901	1911	1921	1931	
Montreal. Toronto. Vancouver. Winnipeg Hamilton Quebee. Ottawa. Calgary. Edmonton. London. Windsor. Verdun. Halifax. Regina. Saint John. Saskatoon. Victoria. Three Rivers. Kitchener. Brantford. Hull. Sherbrooke. Outremont.	Ontario British Columbia Manitoba Ontario Quebec Ontario Alberta Alberta Ontario Outario Quebec Nova Scotia Saskatchewan New Brunswick Saskatchewan British Columbia Quebec Ontario Ontario Quebec Quebec Quebec Quebec	181,215 13,709 25,639 48,959 63,090 44,154 44,154 43,876 31,977 10,322 38,437 - 39,179 - 16,841 8,334 7,425 12,753 11,264 10,097	328, 172 209, 892 29, 432 42, 340 552, 634 68, 840 59, 928 4, 176 37, 976 12, 153 1, 898 40, 832 2, 249 40, 711 20, 919 9, 981 9, 747 16, 619 13, 993 11, 765 11, 148 3, 633	490, 504 480, 504 481, 833 120, 847 136, 035 81, 969 78, 710 87, 062 443, 704 31, 064 446, 300 17, 829 41, 629 46, 619 30, 213 31, 660 13, 691 15, 196 23, 132 18, 222 16, 405 4, 820	618,506 521,893 163,220 179,087 114,151 95,193 107,843 63,305 58,821 60,959 38,591 25,001 58,372 34,432 24,7166 25,739 38,727 22,367 21,763 29,440 24,117 13,249 20,541 13,249 20,541	818,577 681,207 246,593 218,785 155,547 130,594 126,872 83,761 79,197 71,148 63,108 60,745 59,275 53,209 47,514 43,291 39,082 35,450 30,793 30,107 29,433 28,933 28,933 28,841	

Birthplaces.—The following table gives the birthplaces of the population as shown in the past four decennial censuses:—

Birthplaces of the Population of Canada, 1901, 1911, 1921 and 1931

		Foreign Born Percentages o						Total Population		
Year	Canadian	British	Born	Born	Total Popula-	, , ,	T. 1.1.1	Foreign	Born	
2 000	Born	Born ¹	United States	In other In other Foreign	tion	Canadian Born	British Born	United States Born	Other Foreign Born	
	No.	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.e.	
1911 1921			374,022	449,052 516,255	5,371,315 7,206,643 8,787,949 10,376,786	77·98 77·75	11·58 12·12	2·38 4·21 4·26 3·32		

¹ Includes some hundreds of persons born at sea.

Sex Distribution.—The population of Canada in 1931 was made up of 5,374,541 males and 5,002,245 females. Thus there were 518 males and 482 females per thousand. The masculinity of the population has increased in the eastern provinces and decreased in the western ones, where it was formerly greatest. A preponderance of males is common in all new countries where immigration has played an important part in building up the population.

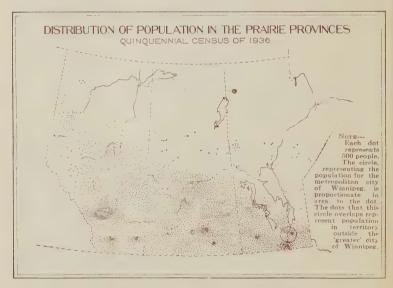
Aboriginal Races.—The 1931 figures of population given above include small numbers of the aboriginal races which amount in all to little more than 1 p.c. of the total population. For information regarding administration of the aboriginal races see Chapter XIX.

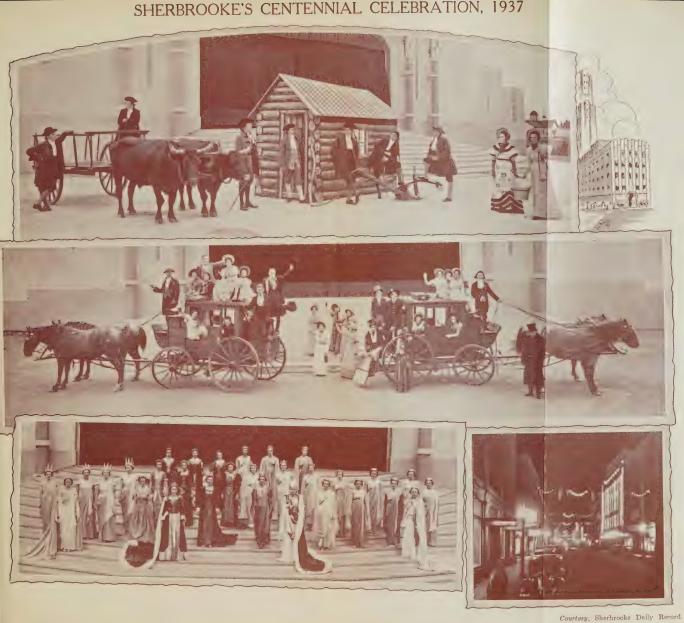
Indians.—According to the 1931 Dominion Census, the total number of Indians was 122,911 (62,943 males and 59,968 females) made up by provinces as follows: P.E.I., 233; N.S., 2,191; N.B., 1.685; Que., 12,312; Ont., 30,368; Man., 15,417; Sask., 15,268; Alta., 15,249; B.C., 24,599; Yukon, 1,543; N.W.T., 4,046. The Department of Indian Affairs made a later count of Indians in 1934 and the figure given at that date was 112,510, made up by provinces as follows: P.E.I., 224; N.S., 2,093; N.B., 1,734; Que., 13,281; Ont., 30,631; Man., 12,958; Sask., 11,878; Alta., 10,900; B.C., 23,598; Yukon, 1,359; N.W.T., 3,854.

Eskimos.—According to the Dominion Census of 1931, there were 5,979 Eskimos in Canada, nearly 80 p.c. of these being in the Northwest Territories. The distribution by provinces was: N.W.T., 4,670; Que., 1,159; Yukon, 85; Man., 62; and Alta., 3.

The Quinquennial Census of the Prairie Provinces, 1936.—Detailed results of this census have been compiled and published by the Dominion Bureau of Statistics. In view of the limited space available, these results can be only broadly outlined here.

In considering this census, it should be remembered that during the quinquennial period 1931-36 agriculture, the basic industry of the Prairie Provinces, was in a very depressed condition and large areas of southwestern Manitoba, southern Saskatchewan, and southeastern Alberta were very seriously affected by drought. There has been a movement of rural population from southern Saskatchewan to the northern part of the arable belt in that province and a pronounced movement to the northern agricultural areas of Alberta. In all three provinces the proportion of urban population has declined due to the effects of the agricultural depression upon the commerce and industry of urban communities, but rural population has increased in spite of the conditions of hardship and privation.





Sherbrooke's Centennial Celebrations

Sherbrooke, Queen City of the Eastern Townships of the province of Quebec, held her centennial celebrations during the summer of 1937. The growth of the city—the hundred years of development from a small community of scattered log cabins to the present thriving metropolis of about 30,000 inhabitants—was portrayed by historical pageantry in an open air theatre to the thousands of visitors who attended the celebrations.

The layout overleaf reading downward, shows the following features of the pageant: (1) the arrival of Gilbert Hyatt, Sherbrooke's first settler, with his son and five brothers; (2) the arrival of the stage coaches (scene in the Craig Road episode); (3) Miss Canada, Miss United States, Miss Quebec and Miss Sherbrooke with their respective groups of attendants—a tableau in the pageant; and (4) a view of Wellington Street, one of the main thoroughfares of Sherbrooke, as illuminated for the celebrations.

The Seventy-Fifth Birthday of Victoria, B.C.

In 1937 Victoria celebrated her Diamond Jubilee, as reckoned from the date of incorporation of the city, Aug. 2, 1862. Actually, the founding of Victoria goes back to 1843 when the Hudson's Bay Company established Fort Victoria, named after Queen Victoria, upon a site which is now the centre of the city.

Anticipating that, under the Oregon Treaty then being drawn up, the 49th Parallel would be chosen as the International Boundary Line, the Hudson's Bay Company, in 1843, sent James Douglas, its Chief Factor, to build a new fort on the southern part of Vancouver Island to replace Fort Vancouver in the State of Washington, as it was considered essential for them to remain on British soil.

Victoria is to-day a city of about 40,000 inhabitants. It is the provincial capital, is beautifully situated near the south-east extremity of Vancouver Island and has splendid harbour facilities.

Reading downward, the layout (opposite) shows: (1) the old Fort of Victoria in 1843—this site is now the centre of the city; (2) the Parliament Buildings and a corner of the harbour; (3), (4) and (5) views of the celebration procession showing, respectively, sailors from H.M.S. Exeter, the float entered by the city of Victoria, and a covered wagon typical of those which went up the old Cariboo trail.

Summary of the Population of each of the Prairie Provinces, as Shown by the Quinquennial Census of 1936, with Comparative Figures for Census Years 1911-31.

Item	1911	1916	1921	1926	1931	1936
ManitobaSaskatchewanAlberta	461,394 492,432 374,295	647,835	757,510	820,738	921,785	930,893
Totals	1,328,121	1,698,137	1,956,082	2,067,393	2,353,529	2,414,891
Totals, Rural	858,699 469,422			1,312,155 755,238		

As already noted on p. 32, the urban populations of the Prairie Provinces have generally decreased during the past five years. In the ten cities tabulated below, increases are shown in but four cases, and only in the cases of Edmonton and Prince Albert are these significant.

Populations of Ten Cities in the Prairie Provinces, Census of 1936, compared with 1931

City	1931	1936	City	1931	1936
Brandon. Calgary. Edmonton. Lethbridge. Moose Jaw	17,082 83,761 79,197 13,489 21,299	16,461 83,407 85,774 13,523 19,805	Prince Albert. Regina. St. Boniface. Saskatoon. Winnipeg.	9,905 53,209 16,305 43,291 218,785	11,049 53,354 16,275 41,734 215,814

Immigration.—Total immigrants into Canada during the fiscal year 1937 numbered 12,023 as compared with 11,103 in the fiscal year 1936 and 12,136 in 1935.

English, Scottish, Irish, and Welsh from overseas numbered 2,264 as compared with 2,049 and 2,198 in 1936 and 1935, respectively; immigrants from the United States totalled 5,113 in 1937 as compared with 5,121 and 5,960, respectively, for the two previous years; from other countries the number was 4,646 as compared with 3,933 and 3,978, respectively.

A movement not included in the immigration statistics is that of "returned Canadians". Such departmental figures were first tabulated in the fiscal year 1924-25 and concern Canadian citizens who left Canada to reside in the United States and subsequently returned to Canada declaring their intention of resuming permanent residence in the Dominion. These Canadian citizens are divided into three groups: (a) Canadian born; (b) British born (outside of Canada); (c) Persons naturalized in Canada. The total for 1936-37 was 5,064 as compared with 5,814 in 1935-36.

Although tourists entering Canada are not immigrants, their admission calls for an immigration examination on the International Boundary and at ocean ports. The number of entries in this class increased from 20,898,000 for 1933-34 to 28,935,000 for 1936-37—a total much more than twice the population of the whole Dominion.

Vital Statistics

Canada has a national system of vital statistics, organized under the Bureau of Statistics and the Registrars-General of the several provinces, dating from 1920. The figures of births, deaths and marriages for 1936 with rates for 1926 and 1936 are given, by provinces, in the following table.

Births, Deaths and Marriages in Canada, by Provinces, 1936², with Rates per Thousand Population, 1926 and 1936²

		Births			Deaths		Marriages			
Province	19	36 ²	1926	19	36 ²	1926	19362		1926	
TTOVINCE	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M	
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba. Saskatchewan Alberta. British Columbia.	1,977 11,640 10,494 75,285 62,402 12,855 19,039 15,709 10,493	$\begin{array}{c} 21 \cdot 5 \\ 21 \cdot 7 \\ 24 \cdot 1 \\ 24 \cdot 3 \\ 16 \cdot 9 \\ 18 \cdot 1 \\ 20 \cdot 5 \\ 20 \cdot 3 \\ 14 \cdot 0 \end{array}$	20·1 21·3 26·1 31·6 21·4 22·9 25·2 23·8 16·6	1,024 5,789 4.783 31,853 37,565 6 219 6 287 6,146 7,216	11·1 10·8 11·0 10·3 10·2 8·7 6·8 8·0 9·6	10·3 12·4 12·6 14·3 11·3 8·3 7·4 8·5 9·0	595 4,103 3,394 21,654 27,734 5,756 6,153 6,016 5,448	6·5 7·6 7·8 7·5 8·1 6·6 7·8 7·3	5.6 5.0 7.6 7.6 7.6 7.7	
Canada ¹	219,894	20.0	24 - 7	106,887	9.7	11.4	80,853	7.3	7.	

¹ Exclusive of Yukon and the Northwest Territories.

Births.—Vital statistics for the whole of Canada on a uniform basis have been made available only since 1926 when the province of Quebec came into the Registration Area. From 1926 to 1930 the number of births, though not the rate, showed an upward trend, rising from 232,750 in the former year to 243,495 in the latter.

Since 1930, however, the movement has been reversed. The number of births has declined to 219,894 in 1936 and because of the growing population the rate shows a still more decided reduction, having fallen from 23.9 per thousand population in 1930 to 20.0 per thousand in 1936. A disturbing situation, as it has affected the birth rate, has been the extension of rural depopulation. The decline in births during the depression has, however, been partly offset by a fall in the number of deaths.

Deaths.—The number of deaths which occurred in 1936 and the rates for 1926 and 1936 are given in the above table.

Main Causes of Death.—The six chief causes of death accounted in 1936 for well over one-half of the total deaths in Canada. Diseases of the heart considered as a group was the most important cause in this year. Cancer was second—incidentally, the death rate from this cause has advanced for almost every year from 1926 to 1936, but this trend is in a considerable measure accounted for by the ageing of the Canadian population. Third in importance as a cause of death was the group "diseases of the arteries", which has also shown an apparent upward trend since 1926. Pneumonia was in fourth place, although up to and including 1932 this cause took precedence over diseases of the arteries. Tuberculosis was next and diseases of early infancy, nephritis, and accidental deaths sixth, seventh, and eighth, respectively.

² Preliminary figures.

Infant Mortality.-A good indication of the efficiency of the health services of a country is provided by its infant mortality. In Canada during recent years this rate has shown a substantial reduction, falling from 102 per thousand live births in 1926 to 66 in 1936. The Canadian rate, however, ranks fairly high as compared with those of other countries. and room for improvement is still great, especially as regards gastrointestinal diseases and diseases of the respiratory tract.

Infant Deaths (under One Year of Age) and Death Rates per Thousand Live Births in Canada, 1926, 1934, 1935 and 19362

Province	Deaths under One Year				Rates per 1,000 I ive Births			
Trovince	1926	1934	1935	19362	1926	1934	1935	19362
Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia.	123 882 1,095 11,666 5,302 1,122 1,681 1,233 588	130 807 878 7,388 3,523 734 1,093 891 426	145 838 866 6,939 3,515 837 1,194 936 460	137 770 803 6,220 3,416 779 1,024 940 461	70 80 106 142 78 77 81 85 58	67 71 86 97 57 55 55 55	72 72 83 92 56 63 61 58 46	69 66 77 83 55 61 54 60
Canada ¹	23,692	15,870	15,730	14,550	102	72	71	- 60

¹ Exclusive of Yukon and the Northwest Territories. ² Preliminary figures.

Natural Increase.—Natural increase results from the difference between births and deaths. The birth rate (as indicated in the table on p. 34) is, in general, declining in Canada. The death rate, however, is also declining (though at a slightly lesser rate) with the result that the rate of natural increase has been downward on the whole since 1930. The rate for 1926 was 13.3 per thousand population; for 1929 it was 12.2; for 1933, 11·3; and for 1936, 10·3.

Marriages.—The recent depression exercised a marked influence on marriages and the marriage rate in Canada. The year 1936, however, showed a very marked recovery. In 1929 marriages in Canada numbered 77.288. They declined to 71,657 in 1930, 66,591 in 1931, and 62,531 in 1932. The corresponding rates were 7.7 per thousand in 1929, 7.0 in 1930, $6\cdot 4$ in 1931, and $6\cdot 0$ in 1932. The year 1933 showed a slight upturn in the number of marriages, 63,865 as against 62,531 in the preceding year, though the rate remained unchanged at 6.0 per thousand. In 1934 the number of marriages increased by more than 9,000, reaching the figure of 73,092, with a rate of 6.8. In 1935 the number was 76.893 and the rate 7.0. The year 1936 showed a further increase in number to 80,853, while the rate advanced to 7.3.

Divorces.—Divorces granted in Canada have increased from 19 in 1901 to 51 in 1910, to 429 in 1920, to 785 in 1928, to 816 in 1929, to 875 in 1930, but decreased to 692 in 1931, owing to fewer divorces granted in Ontario as a result of the change in system and delay in dealing with applications during the transfer from Dominion to provincial jurisdiction. For the calendar year 1932 a new high total of 995 was recorded; a decrease to 923 was shown in 1933. In 1934 the number was 1,106; in 1935, 1,376; and in 1936, 1,526.

CHAPTER IV

AGRICULTURE

The soil and climate of Canada are such as to permit a great diversity of farming enterprise within the country. This will be evident from a brief consideration of the prevailing regional types of farming in the Dominion.



A View of the Countryside, Cardigan River, P.E.I.

Courtesy, Canadian Government Motion Picture Bureau.

The Maritime Provinces show considerable regional difference in crop production. In certain areas, especially adapted to their production, potatoes and apples are important cash crops. Hay and clover occupy the greatest proportion of the general field-crop area, while on large acreages of dykelands adjacent to tide water, hay raising is a specialty. Dairy products supply a large proportion of the farm income.

The province of Quebec is adapted essentially to mixed farming, with large regions specializing in dairying. The forage and coarse grain crops comprise over 90 p.c. of the total field-crop area, while among the strictly cash crops, potatoes occupy the greatest area. This province accounts for the bulk of the maple syrup and sugar made in Canada and is an important producer of honey. Vegetable crops provide a substantial revenue, while certain types of tobacco thrive in the province.

While mixed farming predominates in the province of Ontario, considerable attention has been given to the development of specialized farming enterprises such as the growing of fruits, truck crops and tobacco. As in Quebec, the major part of the cultivated area is planted to forage crops and coarse grains but the acreages of cereals are much larger than in Quebec. In some counties the fall wheat crop contributes a fair proportion of the cash income. Sugar beets are an important crop in the southwestern part of the province. Dairy farming is carried on throughout

the whole province with considerable specialization in the areas surrounding the larger centres of population, in Oxford county and eastern Ontario. Fruit and vegetables are grown extensively in the Niagara and Essex peninsulas and in other districts bordering the Great Lakes and Georgian bay, while in the counties of Essex, Kent, Elgin and Norfolk, tobacco is an important crop.

Over two-thirds of the field-crop acreage of Canada is concentrated in the three Prairie Provinces and most of this area is seeded to grain crops with wheat predominant. Generally speaking, the specialized wheat areas cover the southern short-grass plains from the Red River Valley of Manitoba to the foothills of Alberta and attain their greatest width in central Saskatchewan. In the park belt lying mostly north of this region, mixed farming is practised, with large areas of coarse grains and natural hay used for live-stock feeding. In southwestern Saskatchewan and southern Alberta, cattle and sheep ranching is an important industry.

In British Columbia agriculture exhibits possibly a greater degree of diversity than in any other province, ranging from the highly specialized fruit and vegetable farms to the ranches of the interior. Fruit and truck crops are most important in the Okanagan and Kootenay valleys. Dairying and poultry raising are specialties on Vancouver island and in the lower Fraser valley.

Dominion Assistance to Agriculture

The assistance rendered to agriculture by the Dominion Government covers such a broad field that it cannot be adequately treated in any one year in the space available here. Such matters as the organization of the Department of Agriculture, including the duties of the various Branches as they function at the present time and the important fields of research which the Experimental Farms and Stations cover with regard to farm crops and forest protection, have been described in recent editions of this handbook; this year the work which has been undertaken by the Dominion Government with respect to prairie farm rehabilitation is dealt with.

PRAIRIE FARM REHABILITATION

Under the terms of the Prairie Farm Rehabilitation Act of 1935 the Dominion Government inaugurated a program of agricultural improvement for the drought and soil-drifting areas of the Prairie Provinces. The main objective of this program, which is now in its third year, is to enable farmers in the affected areas to repair the ravages of drought and soil drifting, and to provide all possible safeguards against their recurrence. The rehabilitation program is designed to assist farmers to solve their own problems, rather than to provide temporary relief.

The need for the rehabilitation program arose from the severe conditions of drought and soil drifting which have been experienced almost continuously since 1929 in southwestern Manitoba, and the southern parts of Saskatchewan and Alberta. These conditions have resulted in very low yields and repeated crop failures. As the type of farming in this area is limited by climatic conditions to grain production, principally wheat for export, these drastic reductions in crop yields, coupled with the extremely low grain prices which prevailed from 1930 to 1935, have

entailed enormous economic losses and considerable hardship to the agricultural population. In view of the gravity and national importance of the drought problem, the Dominion Government has introduced, through the Prairie Farm Rehabilitation Act, various measures of assistance to farmers in the affected area, including the remedial adjustment of agricultural practices.

The rehabilitation program is under the direction of the Dominion Minister of Agriculture, operating largely through the facilities of the Dominion Experimental Farms. Various phases of the work are conducted in co-operation with the Governments of the Prairie Provinces.

Under the terms of the Act provision is made for the following rehabilitation measures: (1) introduction of improved farm practices; (2) tree planting; (3) surface water development; (4) land utilization and land settlement. Brief descriptions of the work in progress under the foregoing headings follow.



Typical Soil-Drifting Scene in the Drought Areas of the Prairie Provinces.—
The highway bordered by the telegraph poles is completely blocked by the drifts.

Courtesy, Department of Agriculture.

1.—The Introduction of Improved Farm Practices in the Drought Area

Rehabilitation measures affecting farm practices in the drought area include the control and prevention of soil drifting, the reclamation of severely drifted land for crop production, the regrassing of sub-marginal cultivated land, the raising of live stock, and the production of vegetables for home consumption. This program is being effected through the demonstrational and investigational work of the Dominion Experimental Farms and Stations in the drought area, and on district experiment sub-

stations, reclamation stations and regrassing projects, which have been established under the Act. Active co-operation with farmers is being secured through agricultural improvement associations.

Dominion Experimental Farms within the drought area have been in operation at Brandon, Man., and Indian Head, Sask., for over 50 years, and at Scott, Sask., Swift Current, Sask., and Lethbridge, Alta., for shorter periods. In addition, work on ranching problems has been in progress on the Dominion Range Experiment Station, Manyberries, Alta., since 1926. As the experimental work of these farms and stations has been closely related to the development of agriculture in the present drought area, they are in a favourable position to further rehabilitation.

District experiment sub-stations are essentially outposts of the Dominion Experimental Farms, established for the demonstration and further trial of methods of crop production suitable for the drought and soil-drifting areas. Comprising generally one section of land, these sub-stations are private farms operated under the supervision of the Dominion Experimental Farms. Since the inauguration of the program, 47 sub-stations have been established at strategic points. In addition to field work with rotations and soil-drifting control practices, these sub-stations serve as demonstration points for farm gardens, and various other farm-stead improvement projects.

Reclamation stations, for investigational work on the reclamation of severely drifted land, have been established at Melita, Man.; Mortlach, Cadillac, and Woodrow, Sask.; and Hutton and Youngstown, Alta.

Regrassing projects, the object of which is to demonstrate methods of re-establishing grass cover on land which has been proven unsuitable for grain production, are located at 41 different points. These projects vary in area from about 900 acres to as low as 10 acres each.

In order to bring farmers into contact with the work conducted under the rehabilitation program, and to secure as much co-operation as possible in solving the problems raised by drought and soil drifting, a number of agricultural improvement associations have been formed among farmers in different districts. Members of these associations receive certain advisory and material services from the Dominion Experimental Farms, while financial assistance is provided for association activities. By the end of August, 1937, about 80 associations had been formed, with 10,171 members. In addition, about 10 associations were in process of formation.

At this point it may be well to consider the nature of the major problem affecting farm practices in the drought area, as well as the measures being advocated for its solution.

Soil-Drifting Control.—Normal precipitation in the drought areas of the Prairie Provinces is inadequate for continuous crop production. This fact makes it necessary to conserve part of one year's precipitation by summerfallowing, in order to augment the supply for crop production in the following year. An essential feature of summerfallow practice is the destruction of moisture-consuming weeds by cultivation. This results in the fallow land being exposed in a bare and pulverized condition to the erosive effects of high winds. As from one-third to one-half of the cultivated land may be in summerfallow each year, the causal relationship between summerfallow and soil drifting, especially under drought con-

ditions, is obvious. The attack on soil drifting under the rehabilitation program involves the introduction of improved methods of summerfallowing.



Aerial View of Nobleford District, Alta.—This picture illustrates the method of strip farming which has been universally adopted in this section of the province.

Courtesy, Department of Agriculture.

One of the most effective methods of soil-drifting control is strip farming, which consists of dividing large fields into alternate narrow strips of crop and summerfallow. These strips, which may vary in width from 4 to 20 rods, are run at right angles to the direction of the prevailing strong winds. Drifting, which may start on the fallow strips, is prevented from spreading by the crop or stubble on the adjacent strips. In this manner the cumulative effect of drifting on large fields is avoided. Strip farming has been practised successfully for many years in parts of southern Alberta, and its use throughout the drought area is being widely adopted.

In the cultivation of fallow land it is desirable to leave as much stubble and other "trash" on the surface as possible, and to produce a rough cloddy tilth, in order to reduce susceptibility to drifting. Good trash cover may be secured by shallow cultivation; in this respect, the "ploughless fallow" in which the fallow (and subsequent seed bed) is cultivated without ploughing, is coming into wide use. Rough tilth is secured by the same method, and by avoiding the use of implements which produce extreme pulverization.

In some cases cover crops of fall sown spring grain are used to prevent fall and spring drifting. Various emergency methods are also used, such as spreading straw on small areas of incipient drifting and cultivating or ridging land at intervals across a field.

The foregoing methods of soil-drifting control are under demonstration and trial, with due regard to local conditions, on the various district experiment sub-stations and reclamation stations.

Where the control of soil drifting cannot be effected by any of the foregoing methods, as on some areas of sandy land, regrassing may become necessary. Owing to the difficulty of securing a stand of grass on land which is subject to periodical drifting, it is frequently necessary to provide

some vegetative protection for the soil. Cover crops of grain, such as fall rye, are used for this purpose. Grass seed of the desired species, usually crested wheat or brome grass, is seeded when sufficient protection has developed to check drifting. Sometimes several attempts at regrassing are necessary in order to secure the desired result. Work of this nature is in progress on the reclamation stations and regrassing projects.



A Well-Grown Windbreak on Sandy Soil in Saskatchewan.

Courtesy, Department of Agriculture.

2.—Tree Planting

Tree planting, with the object of improving living conditions on prairie farms, and of providing protection for gardens and crops against the erosive and drying effects of high winds, is being undertaken as part of the rehabilitation program.

Afforestation of the naturally treeless prairies is beset with serious difficulties, arising largely from adverse climatic conditions, but also from the large territory to be covered. For this reason tree-planting work in the Prairie Provinces prior to 1935 was largely confined to the establishment of farmstead shelterbelts. Under the rehabilitation program, this work is being extended by providing free trees plus financial assistance for planting in the drought areas, and in addition, the problem of giving adequate shelter to field areas is being experimentally investigated through fieldcrop shelterbelt associations. These associations consist of groups of farmers who are assisted in undertaking the establishment of field-crop shelterbelts on compact blocks of farms throughout an area of about 30 or 40 square miles. The object of this work is to determine the value of such plantations for the prevention of soil drifting and the conservation of soil moisture. Four such associations have been formed at the following points: Lyleton, Man., Conquest, Sask., Aneroid, Sask., and Ribstone, Alta. A similar tree-planting project is being conducted in co-operation with the rural municipality of Kindersley, Sask. The results of this work, which will not be known for a number of years, should provide new and

valuable information on afforestation in the prairies. Other rehabilitation tree-planting projects include the supply of free trees to members of agricultural improvement associations, and the establishment of demonstrational shelterbelts on district experiment sub-stations.

Since 1935, approximately three million tree seedlings have been furnished by Dominion Forest Nursery Stations at Indian Head and Sutherland, Sask., for rehabilitation purposes.



A Finished Dugout.—As explained in the text, these dugouts are constructed to conserve surface moisture.

Courtesy, Department of Agriculture.

3.—Surface Water Development

The development of surface water resources for agricultural use is a major rehabilitation activity which has already resulted in substantial benefits to farmers and ranchers in the drought area. The object of this work is to provide for the storage, by means of dugouts and dams, of spring run-off water for domestic, stockwatering, and irrigation purposes. This work is supervised by a Water Development Committee with head-quarters at Regina, Sask. The personnel of this Committee includes officials of the Dominion Experimental Farms, and representatives of each of the Prairie Provinces.

Under the rehabilitation program, two types of projects are being constructed—small projects on private farms, and larger projects for community use. Small projects consist of dugouts, dams, and irrigation works on private farms for which the farmers receive free engineering services, and financial assistance in proportion to the magnitude of the project. The basis of financial assistance is 4½ cents per cubic yard of earth moved, plus additional amounts for rock work and the purchase of materials. Maximum assistance for the different types of projects are: \$75 per dugout; \$150 per stockwatering dam; and \$350 per irrigation

project. Where two or more farmers co-operate in a "neighbour" project, the maximum assistance is increased to \$500. Assistance for large community projects is determined for each project on its merits, sometimes amounting to the full cost of construction.

Applications for assistance with water development are received by the Water Development Committee. Small projects, when examined and approved, are referred to the appropriate provincial authorities for final authorization. Engineering and financial assistance for these projects are provided from rehabilitation funds. Large projects are passed through the Dominion Department of Agriculture to the Minister for final approval.

Progress with Small Water Development Projects.—From the inauguration of the program in 1935 to the end of June, 1937, some 7,625 applications for assistance with small projects were received. During the same period a total of 2,042 small projects were reported as completed, including 1,168 dugouts, 718 stockwatering dams, and 156 small irrigation projects. As most of the work on small projects is done in the autumn after harvesting operations have been completed, the above totals will be considerably increased by the end of the current year.

Progress with Large Water Development Projects.—Large projects include the construction of storage dams or irrigation works for legally incorporated bodies, such as rural municipalities or irrigation districts. In some cases assistance has been provided for repair and extension work on existing projects, where such work was necessary for the protection of settlers. The basic principle governing the selection of large projects is to secure a maximum of benefit with a minimum of cost.

Since the beginning of the program, work on a large number of projects has been completed. This includes the construction of works for the irrigation of 4,400 acres at Val Marie, Sask.; 1,470 acres at Eastend, Sask.; 900 acres at Middle Creek, Sask.; 2,000 acres at Adams lake, Sask.; 3,600 acres in the Mountain View Irrigation District in Alberta; and 3,000 acres at Wildhorse, Alta. Extensive repairs and improvements have been made to the works of the Eastern Irrigation District at Brooks, Alta., and of the Canada Land and Irrigation Company, Vauxhall, Alta. For the community storage of water for stockwatering, one dam has been constructed at Souris, Man.; one at Crystal City, Man.; four in the rural municipality of Edward, Man.; two on Long Creek, near Estevan, Sask.; one at Coderre, Sask.; and a number on land under the control of the Special Municipal Areas Board of Alberta. Near Lajord, Sask., spring flooding on about 13,000 acres of land has been prevented by straightening and clearing the channel of Waskana creek.

Large projects in course of construction or under consideration include the creation of a storage reservoir in Cypress Lake bed, Sask.; of storage dams on the Souris river at Midale, Sask., and near Melita, Man.; and various irrigation and stockwatering projects throughout the drought area.

4.—Land Utilization and Land Settlement

During the period of agricultural settlement in the Prairie Provinces considerable areas of marginal and sub-marginal land, originally covered with grass, were brought under cultivation for crop production. Much of this land was subsequently abandoned, but a considerable acreage is still under cultivation with little prospect of producing profitable crops. To

rectify this condition adjustments in land utilization are being attempted on the basis of information secured through various types of surveys.

Soil Surveys.—With the object of determining the nature, location and extent of various types of soil in the Prairie Provinces, soil surveys have been conducted by the provincial universities for a number of years, in many cases with financial assistance from the Dominion Experimental Farms. Since 1935 the entire cost of this work has been defrayed from rehabilitation funds, with a view to accelerating surveys in the drought area. This work has been well advanced in Manitoba and Saskatchewan and over more than half of the required area in Alberta.

Economic Surveys.—Conducted by the Economics Branch of the Dominion Department of Agriculture, in co-operation with the Universities of Saskatchewan and Alberta, surveys of general economic conditions in various agricultural areas in the drought belt have been in progress since 1935. One major object of this work is to determine the relationship between soil type and farm practices on the one hand and farm revenues on the other. A useful result is the preparation of land classification maps which indicate, on the basis of natural conditions and actual farming experience, the productivity of various soil types.

Land Ownership Investigations.—In order to secure information on land utilization and economic conditions in certain areas of marginal soil, land ownership or farm debt surveys were started in Saskatchewan during 1937. The immediate use of the data secured is to effect necessary changes in land use. Ultimately, the results of these investigations, in conjunction with the soil and economic surveys, will serve as the basis for comprehensive land utilization policies.

Community Pastures.—On the basis of information secured in the foregoing surveys, community pastures are being developed on suitable areas of sub-marginal land. These pastures, located on publicly-owned land, are being fenced and supplied with stockwatering facilities, and steps are being taken to restore or improve their grass cover. Grazing privileges under Government supervision, will be accorded to local farmers or ranchers. By the end of September, 1937, some 208,240 acres on 11 areas in Saskatchewan, and 595,840 acres on 8 areas in Alberta, had been designated as community pastures.

Land Settlement.—In connection with land utilization work, some movement of settlers from poor to better class land has been necessary. In general, however, this phase of the program has not yet been greatly advanced. Further development along this line will depend on the outcome of other rehabilitation measures.

The success of the program described above in bettering western agricultural conditions will not be fully determined for several years, but already some gratifying results have been secured. In addition to demonstrating the solutions for many drought problems, and in securing considerable co-operative action thereon by farmers, the rehabilitation program has helped to maintain a spirit of optimism regarding the future of the dried-out areas. Periodical droughts may be inevitable, but their adverse effects can be minimized by the application of measures based on current experiences and investigations.

Provincial Assistance to Agriculture

Each of the nine provinces, under Section 95 of the B.N.A. Act, has its Department of Agriculture, and everywhere the provinces endeavour to assist their farmers by educational and extension work, and in most cases by the organization of co-operative marketing. Agricultural colleges maintained by the provinces are the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the Manitoba Agricultural College at Winnipeg. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Saskatchewan, Alberta and British Columbia.

The Canadian Grain Trade

The natural advantage which the Prairie Provinces enjoy in the production of high quality grains is to some extent offset by the long distances which have to be covered to bring these products to seaboard outlets. Toward overcoming this handicap, an elaborate yet economical system of handling, storing, and transporting grain has been developed within the past half century. Included in this system are extensive inspection and grading facilities which ensure a high degree of uniformity in the quality of the various grades, and thus perpetuate the reputation Canadian grains have achieved in world markets.

Unlike the handling systems of most countries, Canadian grain is handled in bulk, rather than in bags, and is sold abroad by export grades, rather than by sample. The bulk handling of grain has been facilitated by the system of country and terminal elevators which has grown with the increase in wheat production. In 1900-01, there were already in operation 518 country elevators with a total capacity of 12,759,352 bushels. By 1936-37 these had increased to 5,709 with a capacity of 189,362,500 bushels, although some of these elevators have not been operating during the recent years of light production.

From these country elevators the grain is moved by rail through any one of a number of inspection centres, such as Winnipeg, Calgary or Edmonton, to the terminal elevators located at Fort William-Port Arthur or on the Pacific coast. The number of licensed elevators at the Head of the Lakes has grown from 5 in 1900-01 with a capacity of 5,570,000 bushels to 29 with a capacity of 91,167,210 bushels in 1936-37. Pacific coast terminal elevators are located at Vancouver, Victoria, New Westminster and Prince Rupert and have a capacity of 20,495,000 bushels. A new route to overseas ports has been developed through Churchill with the erection of a terminal elevator in 1931 having a capacity of The movement of grain through the Head of the 2,500,000 bushels. Lakes has always been the heaviest. Total receipts of wheat, oats, barley, rye, and flaxseed at FortWilliam-Port Arthur in 1936-37 were 155,591,277 bushels, compared with receipts at Pacific elevators of 30,315,375 bushels, and receipts at Churchill of 2,425,207 bushels.

From the Head of the Lakes, grain is shipped by water to eastern elevators located on the Lower Lakes and along the St. Lawrence river. Lower Lake elevators supply grain for eastern consumption and for trans-

shipment to the St. Lawrence. Grain also moves from the Head of the Lakes to United States lake ports for United States consumption, milling-in-bond, or shipment by canal or rail to Atlantic seaboard ports. In winter months, small amounts of grain are moved by rail from Georgian Bay and Lower Lake elevators to the ports of Saint John, West Saint John, N.B., and Halifax, N.S., which are open to navigation the year round. Within the past two years a few small ocean-going vessels have gone directly to the Head of the Lakes, and have cleared with grain cargoes for overseas ports.

Clearances of Canadian wheat in 1936-37 from Canadian and United States ports amounted to 145,886,736 bushels. United States imports for consumption and milling-in-bond during 1936-37 amounted to 43,521,170 bushels. The total export movement of Canadian wheat in 1936-37 amounted to 195,223,653 bushels, including wheat flour expressed as wheat. Exports of oats and oat products in 1936-37 amounted to 9,499,895 bushels. Barley exports totalled 17,555,833 bushels, while rye exports amounted to 3,633,032 bushels. Flaxseed exports amounted to 178,468 bushels, while on the other hand, flaxseed imports into Canada totalled 991,007 bushels.

Values of Agricultural Capital and Production

The current value of farm capital in Canada in 1936 was estimated at \$4,628,375,000 compared with \$4,712,391,000 in 1935 and \$4,464,147,000 in 1934. The decline in the total value of farm capital in 1936 was due chiefly to a decline in land values. In 1936, Ontario had 29 p.c. of the total value of farm capital, Saskatchewan 22 p.c., and Quebec 18 p.c.

Current Value of Agricultural Capital, by Provinces, 1936, with Totals for 1935 and 1934

Province	Land and Buildings	Implements and Machinery	Live Stock	Total
	\$'000	\$'000	\$'000	\$'000
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	99,623 83,008 649,820 1,026,126 224,848 1 797,795 1 517,003 1	$\begin{array}{c} 6,326 \\ 8,229 \\ 10,331 \\ 76,167 \\ 120,563 \\ 40,137^1 \\ 131,994^1 \\ 89,751^1 \\ 10,699 \end{array}$	7,968 13,411 15,381 101,204 195,042 45,885 97,619 82,434 20,760	53,456 121,263 108,720 827,191 1,341,731 310,870 1,027,408 689,188 148,548
Totals	3,662,234	494,197 511,163 538,685	579,704 538,994 457,654	4,628,375 4,712,391 4,464,147

¹Based on preliminary returns from the 1936 quinquennial census.

The gross value of agricultural production includes the value of all crops, live stock and animal products produced on farms in Canada. In 1936 the gross value of agricultural production was estimated at \$1,061,624,000, an increase of \$294,830,000 over the depression low established in 1932. Gains in the gross value of agricultural production in 1936 were registered in all provinces.

Drought in Saskatchewan and eastern Alberta in 1937 resulted in the smallest out-turn of wheat since 1914. This lowered the total volume of

crop production in 1937, although larger crops of coarse grains were obtained. Cash income from the grain crops of 1937 will not likely be as high as in 1936. Lower prices for feed grains will offset the larger 1937 production. Cash income from the sale of meat animals and poultry will be greater in 1937, due to a greater volume and higher prices. Fruit crops in 1937 were substantially larger than in the previous year and, because of superior quality, prices held up well in the face of the heavier supplies.

Ontario and Manitoba both experienced a very favourable year in 1937. Crops in the Maritime Provinces and Quebec did not yield as well as in 1936. Alberta was in a slightly better position in 1937. With the exception of Saskatchewan, Canadian agriculture made considerable progress to a normal condition during 1937.

Gross Value of Agricultural Production in Canada, 1931-361

Item	1931	1932	1933	1934	1935	19361
	8,000	\$'000	\$'000	\$'000	\$,000	\$'000
Field crops Farm animals Wool Dairy products Fruits and vegetables Poultry and eggs Fur farming Maple products	435,966 96,778 1,644 191,390 39,692 56,298 3,557 3,456	452,527 65,185 1,093 159,074 32,157 42,078 3,284 2,706	453,598 89,033 2,005 170,829 33,208 38,060 4,062 2,059	549,080 99,438 1,899 183,791 43,531 45,515 4,534 3,040	511,873 120,078 2,232 192,410 48,678 50,434 5,516 3,522	599,421 130,886 2,783 208,238 42,821 53,236 6,399 3,714
Tobacco. Flax fibre. Clover and grass seed. Honey.	7,178 179 1,497 2,246	6,088 170 962 1,470	6,531 159 1,362 2,010	7,232 250 2,010 2,245	10,763 321 1,686 2,027	9,185 298 2,257 2,386
Totals	839,881	766,794	862,946	942,565	949,540	1,061,624

Figures for 1936 are preliminary.

Field Crops

Acreages.—During the past half century there has been a tremendous increase in the area sown to field crops. The opening up of the Prairie Provinces and the stimulus to production induced by the Great War were the principal factors responsible for the increase of nearly 300 p.c. in field crop area between 1890 and 1937.

Wheat.—Production, imports and exports, 1928-37, are shown below.

Production, Imports and Exports of Wheat for Canada, 1928-372

Note.—Wheat flour has been converted into bushels of wheat at the uniform average rate of $4\frac{1}{2}$ bushels to the barrel of 196 lb. of flour.

Year	Production	Imports of Wheat and Flour	Exports of Wheat and Flour	Year	Production	Imports of Wheat and Flour	Exports of Wheat and Flour
1928 1929 1930 1931	'000 bu. 566,726 304,520 420,672 321,325 443,061	bu. 1,345,881 1,374,726 244,220 216,328 173,014	bu. 407.564,186 186,267,210 258,637,886 207,029,555 264,304,327	1934 1935 1936	'000 bu. 281.892 275,849 277,339 229,2181 182,5052	bu. 413,165 896,674 291,510 403,396	bu. 194,779,875 165,751,305 254,424,775 195,223,653

¹ Subject to revision.

²Provisional estimate

Prior to 1905 the amount of wheat produced was less than 100 million bushels. For six years it remained steadily over this figure until 231 million bushels was reached in 1911. In only three of the next twenty years was wheat production less than 200 million bushels, viz., 1914, '18 and '19. At that time the abnormally high 1915 crop of 393 million bushels set a record for a number of years until 1922, when nearly 400 million bushels was produced. New high records were attained in 1923 (474 million bushels), in 1927 (480 million bushels), and in 1928 (567 million bushels). Except for the years 1930 and 1932 when production exceeded 400 million bushels, the years from 1929 to 1937 were marked by unfavourable climatic conditions and yields were correspondingly low. Rust in 1935 caused serious damage, whereas in 1937 the worst drought ever experienced on the prairies reduced the crop to 182·5 million bushels, the smallest yield since 1914.



A Disc Seeder with Land Packer Attachment, Powered by a Tractor.—This machine ploughs, cultivates, harrows, seeds, and packs in one operation.

*Courtesy, Massey-Harris Company, Limited, Toronto.

Other Grains.—These grains consist of oats, barley, flaxseed, rye, buckwheat, peas, mixed grain, and corn. The first two have assumed real importance among the field crops of Canada. The volume of oat production has attained considerable dimensions, reaching the record total of close upon 564 million bushels in 1923. The area under crop has expanded from 3.961.356 acres in 1890 to 13,048,500 acres in 1937, when the production was estimated at 274,468,000 bushels. Barley, with a production of 11,496,000 bushels in 1870, yielded a record total of 136,391,400 bushels in 1928, while the yield for 1937 is now estimated at 85,969,000 bushels. Rye production amounted to 1,064,358 bushels in 1870, increased to 32,373,400 bushels in 1922 and receded to 5,749,000 bushels in 1937.

The Field Crops of Canada, 1937

(According to estimates of Nov. 12, Nov. 18 and Dec. 9, 1937)

Field Crop	Area	Total Yield	Total Value	Field Crop	Area	Total Yield	Total Value
	acres	bu.	\$		acres	ewt.	\$
Oats	13,048,500	182,505,000 274,468,000	179,810,000 117,534,000	Potatoes Turnips, man-	531,200	42,633,000	28, 143, 000
Barley	893,700	85,969,000 5,749,000	43,800,000 4,252,000	golds, etc	185,700	36,334,000	11,978,000
Peas Beans Buckwheat.	67,600	1,178,600 1,178,500	1,593,000	Hay and clo-		tons	
Mixed grains. Flaxseed	1,128,200	7,522,000 36,389,000 687,300	18,371,000	verAlfalfa	848,900	12,985,000 2,096,000	16,843,000
Corn for husk- ing		,		Fodder corn Grain hay Sugar beets	1,147,800 46,500	4,021,500 1,768,000	11,021,000
		0,102,000		ougar Deets	40,000	419,000	2,579,000



Wheat in Stook at Newmarket, Ontario.

Courtesy, Travel and Publicity Bureau, Toronto.

Prices of field crops were at an unusually high level during the War and until 1919, then slumped steeply, falling to a low level in 1923. Recovery followed in the years up to 1930, when sharp declines commenced, bringing the prices of many crops to the lowest recorded levels. The value of the field crops of Canada, which in 1910 was \$384,514,000, had increased by 1914 to \$638,580,000. As the effects of the War came to be felt, the maximum was reached in 1919 with a total of \$1,537,170,000. This value receded to \$899,266,200 in 1923 but the recovery of prices combined with excellent harvests brought the value up to \$1,173,133,600 in 1927 and \$1,125,003,000 in 1928. Since then it declined to \$948,981,000 in 1929, \$662,040,000 in 1930 and \$432,199,400 in 1931. With the exception of 1935, there has been a gradual gain in value until the 1937 season when

the value of field crops, estimated at Dec. 9, stood at the highest level since 1930. Comparative figures for the intervening years are: 1932, \$452,526,900; 1933, \$453,958,000; 1934, \$549,079,600; 1935, \$508,910,900; and 1936, \$594,139,000. Higher prices per unit are chiefly responsible for the increased value of the 1937 production. Due to the reduced yields of many crops, the 1937 production is valued at \$65,000,000 less than that of 1936 from the same crops.

The Flour-Milling Industry.—This most important manufacture connected with the field crops dates back to the first settlement made by the French in 1605. The milling of flour on a large commercial scale began with the competition between the two processes, stone and roller milling. About 50 years ago, the roller process secured a virtual monopoly of the industry and local country mills gave way to large mills served by elevators at central points. The high quality of Canadian wheat soon became recognized throughout the world and Canada's huge export trade in wheat and its products developed rapidly. Statistics of the milling industry will be found on p. 96.

Live Stock

The live-stock industry occupies an important place in Canadian agriculture and is carried on in all provinces of the Dominion. Cattle raising is the leading branch of the industry and embraces both the breeding of dairy cattle and the raising and finishing of meat animals. In the latter case, ranching is followed mostly in the Prairie Provinces while the finishing of cattle for market is more common to Ontario and Quebec where abundant supplies of all feeds are available. Cattle numbers rose successively from 7,973,000 in 1931 to 8,951,900 in 1934 but declined to 8,840,500 in



A French-Canadian Dairy Herd on Pasture, Cap Rouge, P.Q.—Note the Quebec Bridge, spanning the St. Lawrence in the distance.

1937. Ontario is the leading province in hog raising but the availability of abundant supplies of barley in the park belt of Alberta and Saskatchewan is responsible for the rapid development of hog raising in those areas. Swine numbers have fluctuated sharply in sympathy with market prices. From a total of 4,699,800 in 1931, they dropped to 3,549,200 in 1935, advanced again to 4,138,600 in 1936, and in 1937 declined to 3,963,300. Sheep numbers have remained fairly constant during the past few years and in 1937 were estimated at 3,340,000. Farm poultry numbers have declined from a high point of 65,152,600 in 1931 to 57,510,100 in 1937. The raising of horses still occupies a prominent place in the live-stock industry. The numbers of horses on farms declined rapidly after the War, but in recent years the decrease has been small. In 1937, horses on farms numbered 2,883,000, a slight decrease from the previous year.



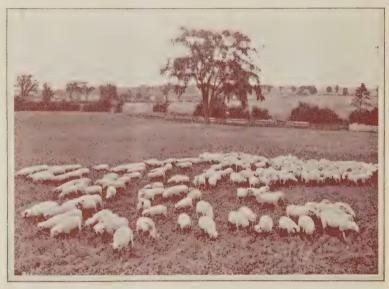
Pig Raising on a Farm near Edmonton, Alta.

Courtesy, Canadian Government Motion Picture Bureau.

Slaughtering and Meat Packing.—This is the most important manufacturing development connected with the live-stock industry. For statistics of slaughtering and meat packing, the reader is referred to p. 95.

Exports.—In the first nine months of 1937, exports of live cattle increased slightly over the same period of 1936. The movement to the United Kingdom declined sharply from 29,313 head valued at \$2,263,237 to 8,119 head worth \$708,312. At the same time the United States increased her imports of Canadian cattle from 215,976 head valued at \$8,494,059 in 1936 to 264,952 head having a value of \$12,752,254 in 1937. The comparative totals for the two nine-month periods were 249,271 head worth \$10,905,854 in 1936 as against 277,034 head worth \$13,647,297 in 1937.

Exports of bacon and hams for the first nine months of 1937 showed almost a 50 p.c. increase over the same period in 1936, the comparative figures for the two periods being 1,509,296 cwt. as against 1,099,602 cwt. The respective values of the shipments were \$25,492,542 and \$18,195,117. The United Kingdom takes by far the greater portion of these exports, the figures for the two periods being 1,480,737 cwt. worth \$24,748,045 in 1937 and 1,075,831 cwt. worth \$17,605,886 in 1936. Exports of beef showed an increase in volume of nearly 100 p.c. over the previous year. The total quantity shipped during the first nine months of 1937 was 107,190 cwt. compared with 56,562 cwt. in the same period of 1936. The respective values of these shipments were \$842,879 and \$503,959.



 $\begin{array}{c} {\bf Lambs\ Fattened\ on\ Alfalfa\ Pasture\ at\ the\ Central\ Experimental\ Farm,} \\ {\bf Ottawa.} \end{array}$

Courtesy, Animal Husbandry Division, Central Experimental Farm, Ottawa.

Total exports of animals and animal products have shown a progressive increase over the past few years. In 1937 the value of these exports was \$110,181,981 for the first nine months while in the same period of 1936 the value of exports was \$89,169,131. Of the 1937 exports, \$59,120,314 worth went to the United Kingdom and \$39,883,601 worth to the United States.

Special Crops

A feature of Canadian agriculture is the number of crops which are grown in localities especially suited for their production. Some of the more important of these are tobacco, sugar beets, maple syrup and sugar, and vegetable crops.

Tobacco production is expanding steadily in Ontario and Quebec where most of the crop is grown. In 1936, production totalled 46,084,000 lb. from 54,965 acres while the preliminary estimate for 1937 is 71,352,000 lb. from 65,350 acres.

Quebec leads in the output of maple products. With production in 1937 at the lowest point for several years, the value of sugar and syrup produced in all Canada was \$2,254,000, as compared with \$3,714,000 in 1936.

Sugar-beet production is centred in south-western Ontario and near Raymond, Alta., although there are other areas sown to this crop in Quebec and Manitoba. In 1936, the latest year for which factory statistics are available, the output of refined beetroot sugar amounted to 156,066,242 lb. This was the greatest production on record and was valued at \$6,103,264.



A Field of Celery at Armstrong, B.C.
Courtesy, Provincial Department of Agriculture, Victoria, B.C.

The growing of fresh vegetables for market is an important occupation in many parts of Canada, particularly in suburban areas. Truck farms located in especially favoured regions provide raw materials for the vegetable-canning industry and cater to the demands of the fresh vegetable market. Other special crops of lesser importance are clover and grass seed, hops, flax and hemp for fibre.

Specialized poultry farming has increased in popularity in the past ten years, particularly in Ontario and British Columbia, and there has also been a large expansion in farm flocks. The effects of selective breeding are noticeable in the improved quality of eggs and dressed poultry. The grading of marketed products is also receiving more attention.

The production of honey is common to all provinces, with Ontario, Manitoba, and Quebec the leaders. In 1936 the estimated Canadian production was 28,241,000 lb. as compared with 24,291,000 lb. in 1935. The 1936 crop was valued at \$2,385,600.

Dairying



Filling and Capping
Room in a
Condensed Milk
Plant in
Ontario.

A Modern Canadian Creamery in the Eastern Townships, Quebec.

Courtesy, Canadian Government Motion Picture Bureau.

Dairving has long been regarded as an important Canadian industry and within recent years its rapid expansion has given it a position of leadership among revenue-producing farm enterprises. In early pioneer days both butter and cheese were made on the farms by the settlers and what they did not require for their own use was bartered for clothing and groceries in the nearby towns and villages. As the country developed, the production of these products became specialized undertakings and gave rise to the establishment of creameries and cheese factories. At the present time 1.316 creameries, 1.000 cheese factories, and 216 factories manufacturing both butter and cheese are being operated in Canada. The output of these factories in 1936 reached a total of 248,740,500 lb. of butter and 117,079,400 lb. of cheese, valued at \$57,331,500 and \$14,234,100, respectively. Due to higher prices, the production of cheese in the first ten months of 1937 increased 10.4 p.c. over the same period of 1936 while the butter output declined 1.5 p.c. In 1900 the production of cheese amounted to approximately 221,000,000 lb. as compared with 36,000,000 lb. of creamery butter. Although cheese production exceeded the creamery butter output for another two decades, a gradual but continuous change from cheese making to butter making was taking place and by 1922 the creamery butter output overtook cheese production for the first time. It held the lead until 1925 when the cheese industry again recovered first place. But recovery was temporary, for in 1926 the tide turned and, whereas from 1925 to 1934 the production of factory cheese fell from 177,000,000 lb. in the former year to 99,000,000 lb. in the latter, that of butter increased from 169,000,000 lb. to 235,000,000 lb. The cheese industry regained some lost ground in 1928 and again in 1932, but otherwise the decline was continuous for fourteen years, leaving its competitor in an unchallenged field. The production of dairy butter has declined, yet the 1936 production represents 30 p.c. of the total butter output. Farm-made cheese, on the other hand, represents only 1 p.c. of the total cheese production.

Concentrated milk (included under "Miscellaneous Factory Products" in tables on p. 56) is produced by another branch of dairy manufacturing that has developed in recent years. During the course of the past five years whole milk products increased 28.5 p.c. while milk by-products advanced 45.8 p.c. Another important product in the miscellaneous group is ice-cream. During the past five years the total output for the Dominion has increased over one million gallons.

With the growth of urban centres, more and more milk is being used in the fluid form, a fact which has a significant connection with the decline in the cheese industry. Although dairying suffered from low market prices between 1930 and 1932, the value reductions were not as great as those of other farm products. In 1930 dairy products represented 19 p.c. of the total farm revenue, while wheat represented 14 p.c. Even with higher wheat prices during the past few years, the value of dairy products in 1936 was still nearly \$3,500,000 above that of its nearest rival.

The consumption of cheese in Canada is less than $3\frac{1}{2}$ lb. per capita, while butter consumption is nearly $31\frac{1}{2}$ lb. This helps to explain why the bulk of our Canadian Cheddar cheese is marketed overseas while butter is chiefly consumed in this country. When large quantities of cheese were being manufactured exports were correspondingly high, but as production declined exports also fell to low levels. In 1936 nearly 82,000,000 lb. were exported, the highest since 1932, and in the first ten months of 1937 they reached a total of 71,415,800 lb. The 1936 exports of Canadian Cheddar cheese represented $22 \cdot 5$ p.c. of the total cheese entering the British market from all countries, whereas in the two preceding years it was only 17 p.c.

For a few years butter exports were relatively high reaching the peak in 1925 with over 24,000,000 lb., but with the development of the home market export shipments of butter declined, and at times they have been reduced to quite insignificant quantities. Aided by a government equalization fund which guaranteed shippers against financial loss, the exports in 1935 amounted to 7,700,000 lb., most of which went forward in October of that year. In 1936 exports were only 5,000,000 lb., shipped principally during the period from July to November. During the first ten months of 1937, 2,096,300 lb. were shipped from Canadian ports, the principal movement beginning at the end of September. The exports of concentrated milk products have fallen somewhat in the past few years, declining from 28,000,000 lb. in 1933 to 25,000,000 lb. in 1935 and 21,000,000 lb. in 1936. During the first ten months of 1937, 25,474,100 lb. were shipped out of the Dominion.

Production of Dairy Products in Canada, by Provinces, 1936

Province	Butter		Chee	ese	Miscel- laneous	Milk Other-	All Products
	Creamery	Dairy	Factory	Farm- Made	Factory Products	wise Used	Expressed as Milk
	lb.	lb.	lb.	lb.	'000 lb.	'000 lb.	'000 lb.
P.E.I. N.S. N.B. Que. Ont. Man. Sask. Alta. B.C.	2,072,800 5,780,000 3,480,500 73,366,000 86,011,800 22,736,500 24,126,500 25,375,000 5,791,400	1,862,000 6,500,000 6,674,000 14,099,000 31,240,000 9,255,000 21,000,000 13,000,000 2,751,000	412,100 24,969,000 87,245,600 1,749,300 512,200 1,445,000 463,200	30,000 5,000 255,000 132,000 167,000 150,000 225,000 68,000	12,740 3,109 19,203 209,031 7,819 5,183 7,839 49,930	486,700 265,000	475,783 418,294 4,411,073 6,753,775 1,097,541 1,502,012 1,411,602 520,847
Totals, 1936 1935	248,740,500 240,918,799	106,381,000 106,949,000		1,032,300 1,018,300			16,741,613 16,356,661

Value of Dairy Products in Canada, by Provinces, 1936

Province	Butter		Chee	se	Miscel- laneous	Milk Other	All
	Creamery	Dairy	Factory	Farm- Made	Factory Products	wise Used	Products ¹
	\$	\$	\$	\$	\$	\$	\$
P.E.I. N.S. N.B. Que. Ont. Man. Sask. Alta. B.C.	458,100 1,462,300 807,500 16,874,200 20,642,800 4,945,200 5,187,200 5,506,400 1,447,800	369,000 1,625,000 1,602,000 2,961,000 5,748,000 1,596,000 3,255,000 2,080,000 468,000	69,100 187,800 69,500	21,000 19,000 25,000 17,000	624,000 237,500 1,875,700 11,116,700 737,700 408,900 602,600 2,153,500	2,366,000 1,954,000 25,255,000 40,390,000 3,019,000 5,871,000 6,319,000 3,705,000	6,495,300 5,024,800 52,284,000 91,282,000 11,630,800 15,926,200 15,755,800 8,244,800
Totals, 1936 1935	57,331,500 52,228,133	19,704,000 18,182,000	14,234,100 10,570,309	138,028 111,023	17,795,500 16,705,958	89,431,000 86,151,000	192,410,423

Includes the value of skim milk and buttermilk.

Fruit Growing

Certain sections of Canada, by reason of favourable soil and climatic conditions, are particularly well suited to fruit growing. The Annapolis valley of Nova Scotia, the Niagara peninsula in Ontario and the Okanagan valley of British Columbia are world-famous centres of production. Experimental shipments of Nova Scotia apples were first made in 1861 but not until 20 years later did the trade develop into a successful commercial venture. Up to 1890, the annual production of apples in Nova Scotia rarely exceeded 100,000 barrels; but after that date there was a pronounced increase in acreage and in production which later reached 1,000,000 barrels in 1909 and 1,900,000 barrels in 1911. The all-time high record for production was established by the crop of 1933 which reached the total of 2,438,000 barrels. The great bulk of the Nova Scotia crop is exported to Britain.

In Ontario, where the commercial production of all varieties of fruits has reached its highest development, apples have been grown from the middle of the 18th century but commercial orcharding has developed only during the past 60 or 70 years, following the improvement in transportation facilities. In addition to apples, practically all other temperate-zone fruits are grown in Ontario but the strawberry, peach, and grape are the most important from the revenue-producing standpoint. Some Ontario fruit is exported to British and continental European ports but most of it is marketed in the province and in other parts of Canada.



Harvesting Peaches at Queenston Heights, Ontario.

Courtesy, Canadian Government Motion Picture Bureau.

In British Columbia, commercial fruit growing is of comparatively recent origin, growth in production having been particularly rapid since 1910. The high point was reached in 1934 with a crop of 5,404,000 boxes of apples. Other tree fruits such as pears, plums and prunes, cherries, peaches and apricots are all grown in commercial quantities while all the berry crops are grown extensively in the province. The Prairie Provinces and Eastern Canada absorb a large part of the production while considerable quantities of apples are exported to British and foreign markets.

In New Brunswick and Quebec, fruit growing is also fairly important with production gradually increasing. Apples and strawberries are the principal crops.

In 1936, the total value of commercial fruit production in Canada was \$14,968,700, including: apples, \$9,789,000; pears, \$602,500; plums and prunes, \$241,700; peaches, \$658,000; cherries, \$480,300; strawberries, \$1,929,100; raspberries, \$703,900; loganberries, \$68,300; and grapes, \$495,200. Conditions during 1937 were favourable for the development of fruit crops and practically all fruits showed substantially larger production than during 1936.

CHAPTER V

MINES AND MINERALS

The Growth of Mineral Production in Canada.—Records of Canada's mineral production are available back to 1886. In that year the total value of the mineral output amounted to little more than \$10,000,000; at the turn of the century this had increased to \$66.000,000, or nearly seven-fold, mainly as a result of the gold discoveries of the Yukon. Not-withstanding occasional reverses in trend, the widespread exploration and scientific development of mineral deposits combined with technological advances in milling and metallurgy resulted in an almost continuous increase in output of metals up to 1929, in which year the Canadian mineral production was appraised at over \$310,000,000. Since the depression low of 1932, the growth in the mining industry in Canada has been unparalleled and in the past three years has exceeded 1929, establishing new annual records for the quantities of most metals produced in the Dominion. Production in 1936 reached \$361,919,372; the estimated production for the first six months of 1937 is given on p. 62.



Asbestos Mines at Thetford Station, P.Q.

Courtesy, Canadian Government Motion Picture Bureau.

Canada, according to the latest statistics available, has \$800,000,000 of capital employed in her mining industry which includes the production of metals, coal, oil, gas, asbestos, gypsum, salt, and various other non-

metallic minerals and structural materials such as brick, cement, lime sand and gravel, and stone. About 80,000 employees receive in salaries and wages \$100,000,000 annually, and the welfare of many more thousands employed in the manufacture of explosives, chemicals, machinery, and textiles, in agriculture, and in transportation services depends to a very large extent upon the growth of this great basic industry.

Metallics.-The greater part of Canadian metal production comes from the Precambrian Shield and the Cordilleran region of British Columbia. A considerable proportion of the rocks comprising these areas are drift-covered and still unprospected, yet the profitable exploitation of known Canadian mineral deposits, largely within the past decade, has firmly established Canada in a high position among the leading mineralproducing countries of the world; especially with regard to gold, silver, and the industrial non-ferrous metals, all of which she produces in relatively large quantities. Out of every one hundred dollars worth of gold brought to the surface in 1936, Canada supplied eleven dollars worth. Canada has a virtual monopoly of nickel, her mines yielding 90 p.c. of the world production; she supplies more than half of the world production of platinum metals; 12 p.c. of the copper and lead; and 10 p.c. of the zinc. Among all countries, Canada stands first in the production of nickel and of platinum; second in radium; third in the production of gold and zinc; and fourth in lead and in copper.

The history of the production of gold in Canada, as in every country, is most colourful. Early production was generally from placer deposits and the discovery of gold about 1860 in the rivers of British Columbia attracted world-wide attention to the mineral possibilities of that province and influenced, to a considerable degree, the decision to build a transcontinental railway uniting British Columbia with its sister provinces to the east. The lode gold mines of this same province brought about the opening of the country along the southern boundary and the smelting of these ores was followed by the building of the Crow's Nest Pass railway in 1898, a transportation link designed for the haulage of smelter fuel.

Next in the sequence of more important gold-mining developments was the discovery and development of the Klondike placers in 1896. There was considerable activity in the eastern Precambrian areas at the same time. Cobalt, found when the Temiskaming and Northern Ontario railway was built in 1903, provided the incentive and money for the development of the Porcupine gold area which was discovered in 1909. The development of the Kirkland Lake gold camp followed soon after (1911). then the mines of northwest Quebec and central Manitoba, and, more recently, the auriferous lodes of the Great Slave Lake and Lake Athabasca areas of the Northwest Territories and Saskatchewan, respectively.

Excepting the war years of 1917 and 1918, and for several years thereafter (years of high costs), production of gold grew steadily until 1932, when the value of output was nearly double that of 1926. Between 1931 and 1934 gold advanced in price from \$20.67 per fine ounce to \$35; this permitted the mining of lower-grade ores and consequently proved an incentive to prospecting (in Canada the grade has fallen from 0.42

fine ounce per ton in 1932 to 0.29 fine ounce per ton in 1936). For a year or two, the actual output in fine ounces was less; however, concurrently with this, new mines were found and equipment at the older properties was enlarged. These factors resulted in a record output in 1935 which was again topped in 1936. Last year the value of the gold output of Canada was more than 50 p.c. of the total value of all metals produced and 36 p.c. of the total value of all metals and minerals produced.

The period from 1925 to 1935 will probably be considered by the historian of the future as being one of the most interesting and significant decades in the history of gold. During this period Great Britain, the United States and several Continental European countries went off the gold standard; as stated above, there were increases in the price of the metal from the old standard value of \$20.67 to \$35; and an expansion in world gold production of approximately 61 p.c. The value of the world's monetary stocks of gold, expressed in United States currency, increased from \$9,277,662,000 to \$21,682.313,000, or from about \$4 to \$10 per (world) capita in the same decade. Paradoxical as it may appear, it is a fact that the index of world wholesale prices declined almost steadily from about 250 in 1925 to less than 150 in 1933—this in conjunction with a very rapidly increasing gold production. Since 1933, however, the index has risen to over 160.

Silver production reached its peak during the Cobalt boom—the peak year being 1910, seven years after the discovery of the camp. Canada, however, still produces substantial amounts, the famous Sullivan leadzine mine in British Columbia accounting for more than six million ounces annually and the nickel-copper ores of Sudbury, two million ounces. Production last year reached eighteen million ounces and came from various sources, for silver is associated with almost every economic metalliferous ore mined in Canada—from the gold ores of Nova Scotia on the one hand to the radium-uranium ores of the Northwest Territories on the other.

Copper has had an interesting history in Canada. In 1848 the Montreal Mining Company commenced operations at Bruce Mines in Ontario, while early production in the '60's came from a mine in Quebec, a property which is still producing. Later, interest shifted to the boundary country of British Columbia and Rossland (closed down for some years), then to the nickel-copper deposits of the Sudbury district, Ontario, the ores of which were extremely difficult to treat at that time but which, to-day, supply nearly 70 p.c. of Canada's total copper production. The Anyox camp in the Portland Canal area of British Columbia produced the metal from 1912 to 1935; cessation of operations at Anyox, however, has been largely compensated for by the re-opening of the Copper Mountain mine at Allenby. The discovery of the Horne (Noranda) ore body gave birth to a high-grade copper mine which has developed also into the third largest individual gold producer in Canada and the greatest economic factor in the successful development of mining in northwest Quebec. The opening up of the Flin Flon deposit in Manitoba gave to that province a definite and important status as a producer of copper. Lending stability to the

industry on the Pacific coast is the Britannia mine, a property representing almost the extreme western rim of Canada's far flung mineral domain. All these mines give direct support to urban centres and the increased purchasing power they provide is widely spread and of ever increasing value in the economic life of the nation. A few years ago practically all of Canada's copper was refined outside Canada; to-day, however, not only is a large percentage of Canadian production refined within the Dominion, but a considerable quantity is fabricated before leaving our shores.

In the case of lead and zinc, the Sullivan mine in British Columbia has placed Canada in an enviable position among the world producers of these allied metals. At first the ore was difficult to treat but tenacity of purpose and technical research finally resulted in the creation and development of the now great metallurgical and chemical industries of the Consolidated Mining and Smelting Company of Canada.

Production of nickel is reaching new peaks each year and new uses are continually being found for this metal. Incidentally, it should be mentioned that platinum metals occur with nickel ores, and it is the increase in the production of nickel that has resulted in placing Canada in first place among the world producers of platinum.

Radium is another Canadian-produced element that should be mentioned. Pitchblende was found by Gilbert Labine close to the Arctic Circle in 1930. The refining of this ore and the extraction of radium is now an established industry in Canada and Canadian production is making this rare element available to hospitals at prices substantially lower than those formerly prevailing.



The Carlson Compass.—This instrument, invented and recently patented by a Canadian employed at one of the large Ontario gold mines, is an instrument for measuring the direction and inclination of bore-holes at intervals along their courses. In surveying the bore-hole, the compass is placed in the tube containing a hot gelatine solution of specified strength. The tube is then lowered to the desired position in the hole where it is left for a sufficient length of time for the gelatine to harden or set. The compass is then withdrawn and the reading taken by the

operator. The azimuth, or bearing, is read directly by means of a compass needle on a horizontal scale and the inclination is shown directly by a set of pointers on a vertical scale. After the reading has been taken the glass tube containing the gelatine and compass is immersed in hot water to liquefy the gelatine and then the instrument can again be lowered into the bore-hole for another survey. The compass has been used for several years with satisfactory results.

Courtesy, Canadian Government Motion Picture Bureau and Dome Mines Limited.

Mineral Production, calendar year 1936, and Official Estimate January to June, 1937

Item	1	936	Six n January to	onths June, 1937
	Quantity	Value	Quantity	Value
Gold fine oz. Estimated exchange on gold produced Silver fine oz. Nickel lb. Copper lb. Lead lb. Zine lb. Zine fine oz. Other metals fine oz.	3,748,028 18,334,487 169,739,393 421,027,732 383,180,909 333,182,736 131,571	\$ 77, 478, 612 53, 814, 809 8, 273, 804 43, 876, 525 39, 514, 101 14, 993, 869 11, 045, 007 5, 320, 731 5, 107, 736	1,966,858 9,605,095 111,610,392 243,919,406 199,204,362 170,535,713 68,244	\$ 40,658,562 28,161,799 4,322,292 29,218,283 34,377,884 11,667,399 9,348,768 3,685,858 2,770,211
Totals		259, 425, 194	_	164,211,056
Non-Metallics				
Fuels Coal ton Natural gas M cu. ft. Petroleum, crude brl. Peat ton	15,229,182 28,113,348 1,500,374 1,341	45,791,934 10,762,243 3,421,767 7,376	6,996,343 15,536,287 1,062,046	21,326,043 5,983,142 2,384,760
Totals	-	59,983,320	_	29,693,945
Other Non-Metall.cs	301,287 17,846 833,822 1,046,649 391,316 75,598 122,132	9,958,183 154,475 1,278,971 768,742 597,781 1,773,144 552,681 1,033,055 177,270 445,815	197,800 8,425 377,198 	6,678,083 77,216 648,250 340,907 495,411 842,865 264,784 544,425 72,001 299,323
Totals	-	16,740,117	_	10,263,265
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products (brick, tile, sewer pipe, pottery, etc.)	4,508,718 468,401	3,471,027 6,908,192 3,335,970 12,055,552	2,090,006 269,314	1,596,548 3,200,000 1,918,000 4,500,000
Totals	-	25,770,741	-	11,214,548
Grand Totals	-	361,919,372	-	215,382,814

¹ In sulphuric acid made and in pyrites shipped. ² Includes silica sand used for smelter flux.

Mineral Production of Canada, by Provinces, 1934, 1935 and 1936

Province or Territory	1934		1935		1936	
Nova Scotia New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia. Yukon. Northwest Territories. Totals.	\$ 23,310,729 2,156,151 31,269,945 145,565,871 9,776,93 2,977,061 20,228,851 41,206,965 1,628,879 40,204 278,161,590	p.c. of total 8.4 0.8 11.2 52.3 3.5 1.1 7.3 14.8 0.6	\$ 23,183,128 2,821,027 39,124,696 158,934,259 12,052,417 3,816,943 22,289,681 48,692,050 1,302,308 127,938	p.c. of total 7.4 0.9 12.5 50.9 3.9 1.2 7.1 15.6 0.5	\$ 26,672,278 2,587,891 49,736,919 184,532,892 11,315,527 6,970,397 23,305,726 54,407,036 2,220,372 170,334 361,919,372	p.c. of total 7.4 0.7 13.8 51.0 3.1 1.9 6.4 15.0 0.7

Non-Metallics.—Coal.—Probably no subject presents a problem of greater general public interest in Canada than that of fuel supply. Two main causes have brought about this effect—disruption or sudden limitation of supplies from other countries and an ever-growing national appreciation of the value and extent of Canada's own coal resources.

The fuel situation in Canada is somewhat anomalous as, in spite of the enormous resources of coal in the country, about 50 p.c. of the consumption is imported. The Canadian coal areas are situated in the eastern and western provinces, while Ontario and Quebec are more easily and economically supplied with coal from the nearer coal-fields of Pennsylvania and Ohio. The movement of soft coal from the Maritime Provinces, however, has been accelerated through the generous assistance provided by the Dominion Government in the form of subventions; during 1936 about 1,681,000 tons were shipped to Quebec and eastern Ontario under Government assisted rates.

New Brunswick's bituminous coal demands are satisfied principally by her own and by Nova Scotia coal mines. Great Britain and the United States supply the larger part of the anthracite requirements of Eastern Canada although supplies are also received from Germany, French Indo-China, and Belgium.

Only Alberta among the Prairie Provinces is self-sufficient in coal requirements. The mines of Alberta also ship approximately 2,000.000 tons per year to Saskatchewan and Manitoba.

British Columbia's coal industry has suffered to a considerable extent from fuel-oil competition. Mines within the province supply the bulk of the coal consumed. Only minor tonnages are imported from other countries, but an increasing quantity is received annually from the neighbouring province of Alberta. The provincial output in 1936, while higher than in the preceding year, was only 44 p.c. of the 1910 total.

Petroleum and Natural Gas.—Canada's petroleum industry dates back to 1858 when the original discovery was made at Oil Springs, Ontario. Canadian production is now derived from the Stoney Creek field in New Brunswick, fields in southwestern Ontario, the Turner Valley, Red Coulee and Wainwright fields in Alberta, and the Fort Norman field in the Northwest Territories. The Turner Valley field is the principal source of the Canadian output. This field produces, in addition to light crude oil. large quantities of casing-head gasolene. Separators and absorption plants are employed to recover this fuel from its natural-gas carrier. Recently, acidation (the treatment of wells with acid) has resulted in important increases in production in several wells in the Turner Valley field. Despite the increased activity in the Canadian primary oil industry, this country still depends largely on outside sources—chiefly the United States, Colombia, Peru, and Venezuela—for its crude supplies.

Nature has endowed certain sections of Canada with abundant supplies of natural gas. The Stoney Creek field in New Brunswick, the Essex Peninsula field in Ontario, the Lloydminster field in Saskatchewan, and the Turner Valley, Viking, Medicine Hat, Wainwright, and Border fields in Alberta are the principal productive areas at the present time. The New Brunswick gas supplies Moncton and Hillsborough. Ontario's gas serves over 119.000 industrial and domestic users. The Saskatchewan gas

is consumed in the town of Lloydminster. The Turner Valley wet gas, after treatment, is piped into Calgary and surrounding points. Some of this gas is used in the field for drilling purposes, some is conveyed to the Bow Island field to repressure old wells, and large quantities, for which there is no use, are burned in the field. The Medicine Hat field supplies gas to the city of that name. The Viking field is the source of gas supply for Edmonton and points outside. Gas from the other fields supplies chiefly local demands.

Other Non-Metallics.—Asbestos.—Canada produces more asbestos than any other country and practically all of Canada's output comes from the Eastern Townships of Quebec. The fibre is of good quality and well adapted for spinning. Both open-cut and underground methods of mining are employed. The production in 1936 amounted to 301,287 tons and had a value of \$9,958,183.

Salt.—This mineral ranked second among the "other non-metallics" or industrial minerals in 1936, with a production valued at \$1,773,144. The greater part of the Canadian salt production comes from wells located in southwestern Ontario, but the Malagash deposits in Nova Scotia show an increasing production in recent years. The first production of commercial importance in Manitoba was recorded in 1932 and for Saskatchewan in 1933. Some shipments have been made from deposits near McMurray in Alberta. An important part of Canadian salt production (42 p.c. in 1936) is used in the form of brine in chemical industries for the manufacture of caustic soda, liquid chlorine and other chemicals.

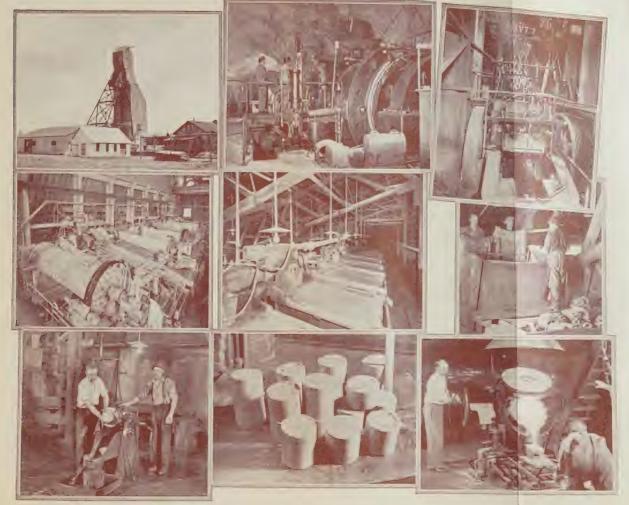
Gypsum.—This is third in importance in this group, the output in 1936 being valued at \$1,278,971. Many large deposits of gypsum occur throughout Canada, but the production is chiefly from Hants, Inverness, and Victoria Counties, Nova Scotia; Hillsborough, New Brunswick; Paris, Ontario; Gypsumville and Amaranth, Manitoba; and Falkland, British Columbia. The Hillsborough deposit of gypsum in New Brunswick is of very high grade. Nearly 50 p.c. of Canada's production is exported in crude forms from the Nova Scotia deposits, which are conveniently situated for ocean shipping and account for about 75 p.c, of the total Canadian production.

In addition to these outstanding minerals there is a substantial annual production of other non-metallics, as will be seen from the table on p. 62.

Clay Products and Other Structural Materials.—This group of products, while of much less importance, economically, than either the metallics or the non-metallics, nevertheless comprises many products which are of fundamental importance in internal trade and in the construction industries. Total production in 1936 was valued at \$25,770,741, of which stone, sand and gravel, and slate made up about 50 p.c. (\$12,055,552) and cement about \$7,000,000.

Production in the First Six Months of 1937.—Greater volume and improvement in prices during the first six months of 1937 combined to make the value of the mineral production of Canada the greatest for any corresponding period in the history of mining in the Dominion. The figures appearing in the table on p. 62 forecast the possibility of many new records being established when totals for the present year are compiled.

GOLD EXTRACTION OPERATIONS IN THE PORCUPINE MINING AREA, ONTARIO



Courtesy, Canadian Government Motion Picture Bureau, Dome Mines, Limited, and McIntyre Mines, Limited.

Gold Extraction Operations in the Porcupine Mining Area, Ontario

The Porcupine gold-mining area of Ontario, while not the richest in gold content of the ore, contains some of Canada's largest and oldest gold mines such as Hollinger and Dome. The layout (overleaf) reading from left to right and from top to bottom shows: (1) main head frame and surface buildings: (2) an underground hoist on the 16th level; (3) chain gate and jaw crusher into which the ore is first fed; (4) tube mills with classifiers in closed circuit where the crushed ore is finely pulverized; (5) and (6) general views of blanket tables. The gold is caught in the ribs of the cloth. The blankets are then removed, placed on wheel cars and conveyed to tanks where they are washed out. The gold is then amalgamated with mercury and fed to presses shown in (7). (7) The press squeezes the gold amalgam into a cake which is then removed and weighed; (8) eighteen gold amalgam cakes ready for retorting. Each cake contains an average of 200 ounces of gold and 200 ounces of mercury. (9) After retorting, the amalgam is reduced to a gold sponge which is melted in an oil furnace and poured into moulds.

Following the attainment of a record year in 1936, the rise during the first half of 1937 to \$215,382,814 was nearly fifty million dollars greater than in the same period of 1936. The value of metal production increased 35 p.c.; fuels, 6 p.c.; non-metallic minerals (other than fuels), 51 p.c.; and structural materials, 29 p.c.

Metallics.—All the chief metals mined in Canada showed substantial increases in production for the six-month period. Gold increased 11 p.c. in both quantity and value; nickel, 34 p.c. in quantity and 36 p.c. in value; lead, 10 p.c. in quantity and 83 p.c. in value; zinc, 8 p.c. in quantity and 79 p.c. in value; and silver, about 10 p.c. in both quantity and value.

Non-Metals.—The tonnage of coal mined from January to June, 1937, advanced 1.6 p.c. over that produced in the same period of 1936. Increased movement of Nova Scotia coal to Quebec and Ontario took place under Government subvention and there was an accelerated movement from British Columbia for bunkerage purposes.

An advance of 57·3 p.c. was recorded in the output of crude petroleum and natural gasolene in Canada during the first six months of 1937 as compared with the corresponding months of 1936; the totals were 1,062,046 barrels and 674,992 barrels, respectively. This increase was entirely accounted for by the Turner Valley field in Alberta.

Non-metals other than fuels showed substantial increases. Asbestos output increased 64 p.c. in quantity and 66 p.c. in value. Salt, gypsum, sulphur, feldspar, graphite, and mica were among the other more important minerals of this group with notable gains. Structural materials—the chief items of which are: clay products; cement; lime; and stone, sand and gravel—increased by 29 p.c. in value.

A number of interesting developments in Canadian mining during 1937 may be mentioned. Several new gold mines began production in Quebec and Ontario. The copper industry showed improvement with the coming into production of two mines in Quebec, one in Manitoba, and one in British Columbia. Greater shipments from the Yukon were the chief factor in the increased output of silver. Work began on the rebuilding of the surface plant at the new Helen iron mine in Michipicoten, with a view to production in the near future as a direct result of the Ontario bounty on iron ore.

The spectacular growth of petroleum production has been indicated above. The rate of increase has been accelerated in the later months of the year, and is due to the bringing in of new crude oil wells in the Turner Valley field, Alberta, and to the effective use of acid in increasing the flow of the wells. This use of acid to increase petroleum production is not new, but has been employed only within the past year in the Turner valley. Potential production has already outgrown present demand with the result that output has been curtailed during the later months of the year.

CHAPTER VI

THE FOREST WEALTH OF CANADA— LUMBERING—PULP AND PAPER

According to the latest figures of the value of production, the forests of Canada rank third, after agriculture and mining, among the primary industries. It is estimated that forest products make up about 17 p.c. of all the freight hauled on Canadian railways. The large excess of exports



Loading a Truck with Heavy Timbers in British Columbia.

Courtesy, Hayes Manufacturing Co. Ltd., Vancouver.

over imports which the group "wood, wood products and paper" provides, amounting to \$195,271,604 for the fiscal year ended March, 1937, constitutes an influential factor in Canada's international trade,

Of the total forested area of 1,254,082 square miles, about 31.5 p.c. carries merchantable timber and 32.3 p.c. carries young growth. The remaining 36.1 p.c. is non-productive under present conditions.

The total volume of accessible timber

has been estimated at 170,142,000,000 cubic feet of which 68 p.c. is located in the eastern provinces, 15 p.c. in the Prairie Provinces, and 18 p.c. in British Columbia. In addition to this there is estimated to be 103,514,000,000 cubic feet of standing timber which is inaccessible under existing conditions. Our total forest resources of 273,656,000,000 cubic feet are capable of being converted into 425,250,000,000 board feet of sawn lumber, and 1,746,639,000 cords of pulpwood, ties, poles, and similar forest products.

While the average annual drain on this resource (including loss by fire, insects and other agencies) may be in excess of the average annual increment, the rate of consumption will, no doubt, be reduced as the supply diminishes and losses due to fires, wasteful utilization, and other preventable causes are curtailed. An annual increment of 10 cubic feet per acre, which is quite possible under forest management, would provide in perpetuity for the needs of a population of over twenty-six millions at the average annual rate of use, which amounts to about 271 cubic feet per capita.

Represented in the three great forest divisions of Canada are approximately 160 different species of plants reaching tree size. Only 31 of these species are coniferous, but the wood of these forms 80 p.c. of our standing timber, and 95 p.c. of our sawn lumber.

Operations in the Woods

The value of forest production resulting from operations in the woods of Canada is, according to latest figures (1935), over \$115,000,000 annually,



Breaking up a Log Jam in Eastern Canada.

Courtesy, Canadian Ingersoll-Rand Company Limited, Montreal.

being made up of logs and bolts for sawmills valued at \$34,000,000; pulpwood for domestic use and export valued at \$41,000,000; firewood valued at \$32,000,000; hewn railway ties valued at \$3,000,000; poles valued at \$1,000,000; and other primary forest products, such as square timber, fence posts and rails, and wood for distillation. The total value of forest products for 1935 shows an increase over 1934 with increases in all the principal products. (See table on next page.) It has been estimated that this rate of total primary forest production involves the cutting of about 2,300,000,000 cubic feet of standing timber annually. The felling and harvesting of a hundred cubic feet of standing timber (roughly equivalent

to half a thousand board feet of sawlogs or a cord of pulpwood) is a liberal allowance for an average day's work for men employed in the woods and in the transportation of forest products to the mills or the market. Logging, however, is a seasonal operation at which the average labourer works less than a hundred days a year. It is therefore evident that the annual harvesting of our 2 billion cubic feet of standing timber provides regular employment for at least 200,000 men. Probably twice that number are given at least part-time employment in the woods. This work is provided chiefly during the winter months when employment in other fields is at its lowest ebb. The steadying effect of operations in the woods on the employment situation and the fact that it provides a source of cash income for farmers and settlers during the winter should be more fully appreciated. In connection with operations in the woods, the forests not only provide the raw material for the sawmills, pulp-mills, wood distillation, charcoal, excelsior and other plants, but also logs, pulpwood and bolts for export in the unmanufactured state and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark, which all go to swell the total.

The following table gives the total value of the products of woods operations in Canada for the years 1931 to 1935, inclusive.

Value of the Products of Woods Operations, by Products, 1931-35

		1		1	
Product	1931	1932	1933	1934	1935
	8	S	S	\$	S
Logs and bolts	32.889.204	18,029,759	23, 158, 381	29, 115, 515	34.077,938
Pulpwood	51,973,243	36,750,910	31, 141, 104	38,302,807	41, 195, 871
Firewood	44,237,948	30,627,632	33,213,973	31,489,524	31,864,500
Hewn railway ties	4, 144, 169	1,353,664	1,370,750	1,541,901	3,188,651
Square timber	151,114	99,403	1	1	1
Poles	3,057,546	1,411,209	963,951	1,091,046	1,359,736
Round mining timber	958,681	809,700	841,982	954,059	997,357
Fence posts		990,568	969,291	988,884	976,402
Wood for distillation	266,080	251,281	342, 107	286,847	274,797
Fence rails	454,205	253,077	215,521	262,519	266, 253
Miscellaneous products	1,603,666	1,529,049	1,556,082	1,506,630	1,260,274
Totals	141,123,930	92,106,252	93,773,142	105,539,732	115,461,779

¹ Included with "Miscellaneous products" in 1933, 1934 and 1935.

The Lumber Industry

Except in Nova Scotia, 90 p.c. of the forest land is still the property of the Crown—the lumbermen having been granted cutting rights only—and is administered by the various provincial departments.

Canada's sawmills produced, in 1935, 2,973,169 M feet board measure of sawn lumber, valued at \$47,911,256. The greater part of this lumber is coniferous softwood, as the supply of the more valuable hardwoods such as hickory, oak, and walnut (once plentiful in southern Ontario and Quebec) has been almost exhausted. The mills also produced 3,258,253 thousand shingles, valued at \$7,593,765; 226,854 thousand lath, valued at \$536,087; as

well as numerous other products, bringing the total value of the products of the industry up to \$65,905,132, an increase of 20·3 p.c. over the value of production for the previous year.

Production of Sawn Lumber and All Sawmill Products, 1935

Province	Sawn I Prode	Total Sawmill Products	
	M. ft. b.m.	\$	\$
Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia. Totals.	453,956 351,085 67,877 34,621 78,070	105, 184 1, 865, 612 3, 794, 122 7, 423, 881 8, 283, 292 913, 667 555, 386 975, 055 23, 995, 057 47, 911, 256	129,800 2,276,841 4,463,221 9,862,342 10,696,071 951,851 625,177 1,198,640 35,713,189



Eight Million Feet of Douglas Fir Lumber Ready for the Export Trade.

Courtesy, Publicity Division, Department of Trade and Commerce.

The above table gives the production of sawn lumber, and of total sawmill products, by provinces, in 1935. British Columbia produced over 54 p.c. of the total value, Ontario 16 p.c., Quebec 15 p.c., followed by New Brunswick, Nova Scotia, Alberta, Manitoba, Saskatchewan, and Prince Edward Island in the order named.

Markets for Canadian lumber now include practically all the more important countries of the world. Canadian wood enjoys a preference in the British market and the value of Canada's exports of unmanufactured or partially manufactured wood to Great Britain has increased from \$4,848,157 in 1932 to \$21,829,448 in 1936. The housing schemes which have been undertaken recently and the changed trend in type of construction have greatly increased the quantity of timber going into construction work. Canadian timbers are well regarded in that market.

The Pulp and Paper Industry

The pulp and paper industry ranks first among Canadian manufacturing industries in employment and wage and salary distribution. It is second to the non-ferrous smelting and refining group with respect to gross production and second to the central electric stations with respect to capital invested and net value of production. Its development has taken place for the most part during the present century, and is due chiefly to the existence in Canada of abundant water powers adjacent to extensive resources of the various pulpwood species.

This industry has headed the lists in wage and salary distribution since 1922 when it replaced the sawmills in this respect. It was first in gross value of production from 1925, when it replaced the flour mills, until 1935 when it was overtaken by the non-ferrous metal group. In these comparisons only the manufacturing stages of the pulp and paper industry are considered, no allowance being made for the capital invested, employment furnished, payroll, or production of those operations in the woods which form such an essential part of the industry as a whole.

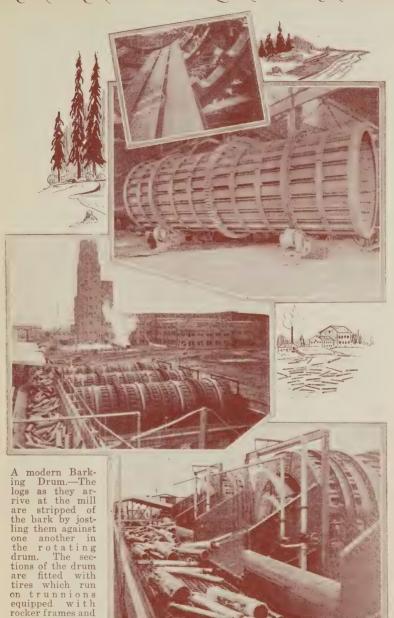
The value of gross output of the industry increased rapidly and steadily until the boom years following the Great War when it jumped to a peak of over \$232,000,000 in 1920. This was followed, in 1921, by a drop which was general throughout the industrial field. From that year on there was a steady recovery resulting in a total for 1929 of \$243,970,761 followed by successive decreases to \$123,415,492 in 1933. The large decreases of these four years were due to both lower price levels and diminished production; however, for 1933, production was substantially greater than for the previous year although the total value was nearly 10 p.c. less. In 1934, 1935, and 1936 quantity and value production both increased. The gross value of production increased by 23·7 p.c. in 1934, by 6·6 p.c. in 1935, and 13·8 p.c. in 1936, when it reached a total of \$185,144,603.

The following statement gives the gross and net values of production for the industry as a whole for the six years 1931 to 1936.

	Gross Production	
1931\$		\$ 87,858,357
1932. 1933.	135,648,729 123,415,492	66,855,923
1934	152.647.756	56,880,641 77,253,752
1935	162,651,282	81,944,813
1936	185, 144, 603	87, 150, 666

There are three classes of mills in the industry. These, in 1936, comprised 25 mills making pulp only, 44 combined pulp and paper mills, and 24 mills making paper only.

BARKING DRUMS OF THE PULP AND PAPER INDUSTRY



is geared the drive in the centre of the section. The close-up view shows how the "channels" of the drum are kept in place. The lower pictures show the feed end of a battery of drums, and barked logs passing from the drums to the conveyor belt. Courtesy, Watrous Limited, Brantford, and Canadian Ingersoll-Rand Co., Ltd., Montreal.

bearings. An electric motor

into

In 1936 the 69 mills making pulp produced 4,485,445 tons valued at \$92,336,953, representing an increase of 16·0 p.c. in quantity and an increase of 15·8 p.c. in value over 1935; over 79 p.c. by quantity was made in combined mills and used by them in papermaking. About 4 p.c. was made for sale in Canada and 17 p.c. was made for export.

Of the total pulp production in Canada in 1936, 65 p.c. was ground wood, 16 p.c. unbleached sulphite, 10 p.c. bleached sulphite, 6 p.c. sulphate, and the remaining 3 p.c. screenings, etc.

The total production of paper in 1936 was 3,807,329 tons, which, with certain converted paper products, was valued at \$147,854,652. Newsprint and similar paper made up 3,225,386 tons, or 85 p.c. of the total, valued at \$105,214,533; paper boards made up 9 p.c.; wrapping paper 3 p.c.; book and writing paper 2 p.c.; and tissue and miscellaneous papers the remainder.

In the past few years there has been a tendency in Canadian paper mills toward the further conversion of many of these basic papers and boards into more highly manufactured products such as napkins, towels, packaged toilet papers, coated and treated papers, envelopes, stationery, and other cut paper and boards.

These converted paper products in 1936 were valued at \$4,075,067 and the value added to the basic stock by the conversion was \$1,422,718. The bulk of this paper converting is still carried on by separate converting mills classified in other industrial groups.

Production of Newsprint and Other Paper in Canada, 1928-36

Year	Newsprint Paper		Other Paper 1		Total Paper	
	Quantity	Value	Quantity	Value	Quantity	Value
1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935. 1936.	tons 2,414,393 2,725,331 2,497,952 2,227,052 1,919,205 2,021,965 2,604,973 2,765,444 3,225,386	150,800,157 136,181,883 114,419,637 85,539,852 66,959,501 86,811,460 91,762,201	471,818 428,835 384,173 371,562 397,455 464,543 515,452	\$ 40,158,778 42,189,095 37,123,991 32,210,252 28,333,271 29,730,374 34,080,765 37,316,185 41,217,401	3, 197, 149 2, 926, 787 2, 611, 225 2, 290, 767 2, 419, 420 3, 069, 516 3, 280, 896	173,305,874 146,629,889 113,873,123 96,689,875 120,892,225 129,078,386

 $^{^{\}rm 1}$ These figures include book and writing paper, wrapping paper, paper boards and other paper products.

The Canadian production of paper has increased almost four times in the period from 1917 to 1936, in spite of the decreases in 1921, 1930, 1931, and 1932. Practically all the different kinds of paper used in Canada at the present time can be produced in Canadian mills.

Canada's newsprint production in 1936 was three and a half times that of the United States, a few years ago the world's chief producer. In 1913 the production across the border was over three times as much as in Canada, but during the following 13 years, while production still increased in both countries, the gain in Canada was over 437 p.c. as compared with less than 30 p.c. for the United States.

The latest monthly figures of Canadian newsprint production are:-

1937—	tons	1937—	tons	1937—	tons
January	287,691	May		September	
February	301,110	June July		October November	
April	298,347	August		December	

Trade in Newsprint and Other Forest Products.—A striking reflection of the increased production of newsprint between 1910 and 1936 is seen in the trade figures. The export trade in paper did not develop until the beginning of the present century. By 1910, however, the exports of newsprint paper were valued at over \$2,000,000; in 1920 they were valued at over \$53,000,000, and even during the subnormal fiscal year 1933-34 Canada exported 2,024,057 tons of newsprint valued at \$73,238,482. For the fiscal year 1936-37 the exports were 3,144,985 tons valued at \$110,176,448. This single item of export thus, at present, ranks second only to wheat. Canadian newsprint is exported to more than thirty countries and our total exports are greater than those of the rest of the world combined.

At the time of Confederation forest products exported were largely in an unmanufactured state, such as logs and square timber, and made up over 41 p.c. of the total export trade. To-day, while the wood and paper group forms a smaller part of the total (about 21 p.c. for the fiscal year 1936-37), its character has changed. Fully or chiefly manufactured goods now form about 71 p.c. and unmanufactured or partly manufactured, 29 p.c. Raw materials form only a small part of the total.



Creosoted Douglas Fir Irrigation Flume in Western Canada.

Courtesy, Forest Products Laboratory, Department of Mines and Resources.

Industries Founded on Wood and Paper.—During 1935, for the further processing of the products of the sawmills and pulp and paper mills, already dealt with in detail in this chapter, there were 4,393 establishments which used lumber or paper as their principal raw materials, 1,966 depending on sawmills and 2,427 depending on the paper mills for such materials. They employed 70,161 workers who were paid \$74,591,554 and their products were valued at more than \$212,603,973. Many other industries use wood or paper to a limited though necessary extent and no industrial activity is entirely independent of the use of paper or wood in some form.

CHAPTER VII

THE FISHERIES OF CANADA

Fishing is one of the earliest and most historic industries of Canada. In 1497 Cabot discovered the cod banks of Newfoundland when he first sighted the mainland of North America, and Fernandez de Navarette mentions in his records the French, the Spaniards and the Portuguese as frequenters of the "Grand Banks" before 1502. Cape Breton, one of the earliest place names in America, takes its name from early French fishermen. The fishing then was by hand lines over barrels attached to the bulwarks to prevent fouling, the vessels remaining during fine weather and then returning to France with their catches. Voyages along the coast soon showed the cod as plentiful inshore as on the outer banks and it



His Excellency the Governor General of Canada included an afternoon of salmon angling in his tour of the Maritime Provinces during the early summer of 1937. The picture shows Lord Tweedsmuir embarking for the famous Hartt's Island Pool of the St. John River, N.B. Inset: His Excellency is all attention while his tackle is being adjusted; Col. the Hon. Murray MacLaren, C.M.G., Lieut.-Governor of New Brunswick, is in the background.

became common for a crew to anchor in a bay, erect a hut on shore and make daily excursions to the fishing grounds, the product being salted and dried on land and at the end of the season shipped to France. Soon the fishermen began to remain all winter and thus permanent fishing settlements were established. Until the arrival of the United Empire Loyalists, the cod fishery was the only one systematically prosecuted, and attention had been given to the shore fishery alone. No deep-sea fishing vessel put out from Lunenburg (now the chief centre of the deep-sea fishery) until 1873.

Canada has perhaps the largest fishing grounds in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. The Pacific coast of the Dominion measures 7,180 miles in length, and inland lakes contain more than half of the fresh water on the planet. Canada's share of the Great Lakes alone has an area of over 34,000 square miles.

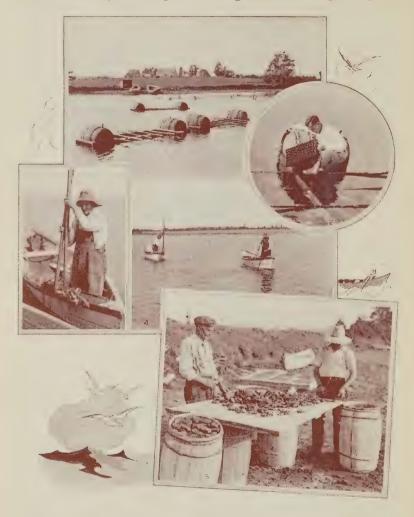
Canada's list of food fishes embraces nearly 60 different kinds, chief among which are the salmon, the lobster, the cod, the herring, the whitefish, the halibut, the haddock, the pickerel, and the trout.

The Government and the Fisheries

At the present time the Dominion Government controls the tidal fisheries of the Maritime Provinces and British Columbia and the fisheries of the Magdalen islands in Quebec province. The non-tidal fisheries of the Maritime Provinces, Ontario and the Prairie Provinces and both the tidal and non-tidal fisheries of Quebec (except the Magdalen islands) are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion Government. The fisheries under the control of the Dominion Government are administered by the Department of Fisheries, which was created as a separate department in 1930. A large staff of inspectors, guardians and supervisors is employed to enforce the fishery laws, and a fleet of vessels patrols the coastal and inland waters to prevent poaching and to assist in the carrying out of the regulations. The main object of legislation has been the prevention of depletion, the enforcement of close seasons, the forbidding of pollutions and obstructions and the regulation of fishing operations generally. Stations under the direction of the Biological Board of Canada* for the conduct of biological research are established at Halifax, N.S., St. Andrews, N.B., Nanaimo, and Prince Rupert, B.C., and in Gaspe County, P.Q. A marine biological station, chiefly for oyster investigation work, is conducted at Ellerslie, P.E.I., and a substation for salmon investigation at Cultus Lake, B.C. The Biological Board employs a permanent staff of scientists, and in addition voluntary research workers are drawn from various Canadian

^{*} Under c. 31 of the Statutes of 1937, the Biological Board Act is repealed and the Fisheries Research Board of Canada is created to take over the duties of the former Board as from Jan. 1, 1938.

THE OYSTER FISHERIES OF PRINCE EDWARD ISLAND



The layout shows: (1) Floats from which the oyster "spat collectors" (concrete egg crate fillers) are suspended. Oysters settle on these at the swimming stage. (2) Superintendent examining the "collectors" during the period the young oysters are expected to settle. (3) Oyster fishermen "tonging" (fishing) oysters from river beds. (4) Oyster fisherman fishing with "tongs". (5) Method of "cleaning oysters"—removing bits of shell and other marine growth with a small blunt hatchet hammer before packing in barrels for shipping.

Courtesy, Canadian Government Motion Picture Bureau.

universities from time to time as required, chiefly professors and trained scientists. Other aids to the industry inaugurated by the Government may be mentioned. Most of the fishing vessels are equipped with radio receiving sets and a system is now in operation for broadcasting radio reports as to weather probabilities, bait and ice supplies and ice conditions along the coast. Educational work is carried on by permanent officers of the Department of Fisheries in instructing the fishermen in various areas as to the best methods of handling and processing their catches, and in bringing to the attention of the public the value of fish as a food. By an Act of 1882 (45 Vict., c. 18) for the development of the sea fisheries and the encouragement of boat building, provision was made for the distribution among fishermen and the owners of fishing boats of \$150,000 annually in bounties, representing the interest on the amount of the Halifax Award. An Act of 1891 (54-55 Vict., c. 42) increased the amount to \$160,000, the details of the expenditure being settled each year by Order in Council.

By parliamentary vote the sum of \$300,000 was made available for use by the Department of Fisheries during the fiscal year 1936-37 to aid, in co-operation with the provinces concerned, in the re-establishment of needy fishermen. Four provinces—Nova Scotia, New Brunswick, Prince Edward Island, and Quebec—entered into agreements with the Dominion authorities in carrying out the purpose of this vote. In each of the four the Department of Fisheries spent dollar for dollar with the Provincial Government in direct aid to fishermen who were in need of assistance and the total spendings from the departmental appropriation were \$200,008. In Quebec 8,930 grants were made to fishermen. In the Maritime Provinces the plan adopted was to make loans to fishermen and associations of fishermen and in the three provinces 6,649 fishermen and 22 associations were aided in this way.

In further effort to aid the fishermen, in this case by expanding the demand for their products, a large-scale advertising campaign was inaugurated by the Department of Fisheries during the fiscal year and the costs were met from a special appropriation of \$200,000 which had been voted by Parliament. In the main, the advertising was carried on within the Dominion, but \$25,000 was used in the United Kingdom, with the particular object of increasing sales of Canadian canned lobster and canned salmon. In Canada many publications of different classes were used in the campaign, which extended to all parts of the country and directed attention to the merits of Canadian fish foods generally.

The Modern Industry

The latter half of the nineteenth century saw the commencement of expansion in the commercial fishing industry of Canada. In 1844 the estimated value of the catch was only \$125,000. It doubled in the following decade and by 1860 had passed the million mark. Ten years later it was \$6,000,000 and this was again more than doubled in 1878. By 1900 it had reached a total of \$21,000,000 and the growth continued with little interruption until 1918, when it reached the high record of \$60,000,000. Since

then there have been decreases, but these are due to lower prices rather than to any decrease in the quantity of the catch. In 1936 the value was \$39,165,055. It will be understood that the figures given represent the total value of the fish marketed, whether in a fresh, dried, canned, or otherwise prepared state. Meanwhile the number of employees has increased in like proportion, amounting in some years to over 90,000, while the capital investment has gone as high as \$64,000,000. In 1936 the number of employees was 86,973, and the capital investment, \$45,831,842.

The salmon fishery of British Columbia gives to that province first place in respect to value of production, the position which in earlier times belonged to Nova Scotia on account of her cod fishery. Nova Scotia is now second with regard to value of output, with New Brunswick third and Ontario fourth. Lobstering on the Atlantic coast is second in value only to the salmon fishery of the Pacific. Lobstering commenced about the year 1870 with three canneries and has expanded until it is now the largest fishery of the kind in the world. In 1936 the lobster canneries numbered 304 and gave work to more than 5,000 people; 30,000,000 lobsters is a normal catch. In New Brunswick the canning of sardines, which are young herrings and not a distinct type of fish, is comparable in importance in that province to the lobster industry, exceeding it in value in occasional years. There are only 3 sardine canneries in the province, but they are of large capacity, and gave work in 1936 to nearly 500 people. The salmon canneries of the Pacific numbered 46 and gave employment to more than 5,000 persons. There are a few salmon canneries on the Atlantic coast, but their output is small. The fish-canning and -curing industry is connected entirely with the sea fisheries, the plants being scattered along the coasts in locations of easy accessibility to the fishermen in delivering their catches.

The tables following show the production of the industry, by provinces, for the years 1914, 1935, and 1936; the production by principal kinds for the years 1935 and 1936; and the capital and employees for 1934, 1935, and 1936.

Production of the Fisheries, by Provinces, 1914, 1935, and 1936

Province	Values of Production			Percentages of Total Value		
	1914	1935	1936	1914	1935	1936
	\$	\$	\$	p.c.	p.c.	p.c.
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia Yukon	1,261,666 7,730,191 4,940,083 1,924,430 2,755,291 849,422 132,017 86,720 11,515,086 69,725	899,685 7,852,899 3,949,615 1,947,259 2,852,007 1,258,335 252,059 225,741 15,169,529 20,725	953,029 8,905,268 4,399,735 2,108,404 3,209,422 1,667,371 367,025 309,882 17,231,534 13,385	4·1 24·7 15·8 6·2 8·8 2·7 0·4 0·3 36·8 0·2	$\begin{array}{c} 2 \cdot 6 \\ 22 \cdot 8 \\ 11 \cdot 5 \\ 5 \cdot 7 \\ 8 \cdot 3 \\ 3 \cdot 6 \\ 0 \cdot 7 \\ 0 \cdot 6 \\ 44 \cdot 1 \\ 0 \cdot 1 \\ \end{array}$	2.4 22.7 11.3 5.4 8.2 4.3 0.9 0.8 44.0
Totals	31,264,631	34,427,854	39,165,055	100 · 0	100 · 0	100 · 0

Fisheries Production, by Principal Kinds, 1935 and 1936

(Each over \$1,000,000 in value, and arranged by value, in 1936)

77' 1	19	35	1936	
Kind .	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
	Cwt.	\$	Cwt.	\$
Salmon Lobster Cod Herring Sardine Whitefish Hallbut Haddock Pickerel	319,969 1,539,150 2,060,320	12,540,307 4,378,742 2,758,140 1,817,540 1,335,798 1,432,072 1,285,587 1,129,695 801,322	2,029,704 283,273 1,699,974 2,852,381 247,238 144,603 138,468 403,010 145,635	13,867,513 - 4,383,428 3.331,750 2,576,533 1,598,562 1,525,700 1,441,310 1,291,905 1,109,397

Capital Invested and Employees Engaged in the Fisheries, 1934-36

Item .	1934	1935	1936
Capital	\$	\$	\$
Vessels, boats, nets, traps, etc	26,212,703 17,372,799	26,473,082 17,144,806	27,217, 25 0 18,614,592
Totals, Capital	43,585,502	43,617,888	45,831,842
Employees	No.	No.	No.
On vessels and boats, and in fishing without boats In fish-canning and -curing establishments	68,634 14,802	68,557 14,361	71,735 15,238
Totals, Employees.	83,436	82,918	86,973

Export Trade in Fish.—The domestic consumption of fish is relatively small in Canada, and the trade depends largely upon foreign markets. From 60 to 70 p.c. of the annual catch is an average export, of which the United States takes approximately one-half and the United Kingdom one-fourth. In the calendar year 1936, total exports amounted to \$25,398,102, of which \$12,917,592 went to the United States and \$5,781,730 to the United Kingdom: analysed in another way, \$9,388,184 went to British Empire countries and \$16,009,918 to foreign countries. The most important single export is canned salmon (to the United Kingdom and European markets), followed by fresh lobster, canned lobster, fresh whitefish, fresh salmon (to the United States), and dried cod (to the West Indies, South America, etc.). For fresh fish the United States is the chief market.

Game Fish.—The foregoing is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche and other rivers of the Maritime Provinces; the black bass and speckled trout of the Quebec and Ontario highlands; the red trout of the Nipigon and the salmon and rainbow trout of British Columbia. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundreds of guides find employment in this field during the summer months.

CHAPTER VIII

THE FUR TRADE

Fur trading is still one of the important industries of Canada, but great changes have taken place since the early days when it dominated all other pursuits. The railway first revolutionized conditions throughout the country and, more recently, the advent of the motor vehicle has influenced the extension of highways to the borders of settlement and beyond. Boats now ply the larger lakes and rivers and aeroplanes transport furs from the more inaccessible districts.

Commencing with the year 1881, records of the value of raw fur production were obtained in the decennial censuses, but from 1920 the Dominion Bureau of Statistics has issued annual reports, these reports at



White Fox Skins at a Northern Hudson's Bay Post.

Courtesy, Hudson's Bay Company.

first being based on returns supplied to the Bureau by the fur traders, but more recently prepared from statements furnished by the provincial game departments, which are based on returns of royalties, export tax, etc. In 1881 the value of pelts taken was \$987,555; by 1910 it had become \$1,927,550; and in the season 1920-21, \$10,151,594.

Canada's production of raw furs in the season 1935-36 (12 months ended June 30, 1936) had a total value of \$14,039,729, compared with \$12,843,341 in the preceding year and \$12,349,328 in the season 1933-34.

These totals comprise the values of pelts of fur-bearing animals taken by trappers and pelts sold from fur farms, the value of the latter representing slightly over 33 p.c. of the whole. The 1935-36 value is the highest recorded since the season 1928-29, in which season it reached a total of over 18,000,000 dollars. Silver fox is far in advance of every other kind with respect to total value, and practically the entire supply comes from the fur farms. The number of silver fox pelts produced during the season 1935-36 was 142,814, with a value of \$4,728,562 and an average price per pelt of \$33·11. The value of the silver fox pelts represents 34 p.c. of the total raw fur production of the Dominion in the season under review. Muskrat and mink are second and third among the principal kinds of furs, the former with a value in 1935-36 of \$2,148,605 and the latter with \$1,701,577. Both kinds show decreases in number, but increases in value, compared with the previous season.

Increases in average prices are shown for all kinds, excepting blue, red, and silver fox, and wolverine, for which lower prices are recorded. Among the principal kinds, silver fox dropped from \$36.05 to \$33.11, but muskrat advanced from 90 cents to \$1.32, and mink from \$8.41 to \$11.03. Mink farming has made steady progress during the past few years and many of the finest mink pelts are from the farms. Approximately 20 p.c. of the number of mink pelts produced during the season may be credited to the fur farms.

The total number of pelts of all kinds produced during the season 1935-36 was 4,550,996, compared with 4,926,413 in the preceding season. The reduction is due, chiefly, to the smaller numbers of muskrat and squirrel pelts.

Numbers and Values of Pelts Taken, Seasons 1921-22 to 1935-36

Season	Number of Pelts	Total Value	Season	Number of Pelts	Total Value
		\$			\$
1921-22. 1922-23. 1923-24. 1924-25. 1925-26. 1926-27. 1927-28. 1928-29.	4,366,790 4,963,996 4,207,593 3,820,326 3,686,148 4,289,233 3,601,153 5,150,328	17, 438, 867 16, 761, 567 15, 643, 817 15, 441, 564 15, 072, 244 18, 864, 126 18, 758, 177 18, 745, 473	1929-30. 1930-31. 1931-32. 1932-33. 1933-34. 1934-35. 1935-36.	3,798,444 4,060,356 4,449,289 4,503,558 6,076,197 4,926,413 4,550,996	12,158,376 11,803,217 10,189,481 10,305,154 12,349,328 12,843,341 14,039,729

An important adjunct of the fur trade is the industry of fur dressing and dyeing. The work is chiefly on a custom basis, that is, the furs are treated for owners and a charge made according to the amount of work involved. The number of plants engaged in the treatment of furs during the year 1935 was 13, the number of skins treated 5,738,920, and the amount received for the work, \$1,374,747. There is also the fur goods industry, which supplies practically the entire quantity of fur goods—coats, scarves, muffs, caps, gauntlets, etc.—consumed in the Dominion. This industry in 1935 provided employment for 2,916 persons, paid in salaries and wages \$3,066,577, and produced goods to the value of \$12,518,670. There were establishments from coast to coast to the number of 320, although the industry was centred chiefly in Ontario and Quebec.

Fur Farming.—In the early days of the fur trade it was the practice in Canada for trappers to keep foxes caught out of season alive until the fur was prime, and from this custom has arisen the modern industry of fur farming. Coming to a northern post with his season's harvest of furs, a trapper would occasionally bring a very beautiful fox pelt, black in colour, with silver tipped tail and scattered silver hairs, giving to the pelt a silver sheen, whence the name "silver" fox. The black or silver fox is a



Fur Farming.—The pictures show portions of "Swissvale" Fox Ranch, Southport, P.E.I. Inset in the upper picture is a fine specimen of Canadian silver black fox.

Courtesy, Canadian Government Motion Picture Bureau.

colour phase of the common red fox, and the beauty of its fur and the consequent high price to be realized from the sale of the pelt encouraged experiments in breeding to fix this silver strain. Success came in 1894, when a litter of silver foxes was raised to maturity in Prince Edward Island. In 1913 Prince Edward Island had 277 fox farms with a total of 3,130 foxes, of which 650 were silver. Meanwhile attempts at rearing foxes in captivity were also being made in other provinces, the records showing that foxes were successfully bred in Quebec in 1898, in Ontario in 1905, and in Nova Scotia in 1906. In 1912 and 1913 the Dominion Commission of Conservation conducted an exhaustive inquiry into the history and possibilities of fur farming in Canada, and the resulting data gave an impetus to the industry. The pioneers of the fox-farming industry raised the foxes chiefly for the sake of the pelts, as high as \$2,600 being received for a single pelt of exceptional quality; it was not until 1912 that there was any general sale of live foxes as foundation stock in newly established ranches. Fabulous prices were then obtainable for the live animals, sales of proved breeders in 1912 being recorded at from \$18,000 to \$35,000 per pair. The number of fur farms from this time forward rapidly increased, companies as well as individuals engaging in the business, and as larger numbers of foxes became available for sale, prices naturally declined. In 1919 the Dominion Bureau of Statistics commenced the annual collection of returns of fur farms, and the records for that year show 424 fox farms and 5 miscellaneous kinds of fur farms in Canada. Fox farming is now carried on in all provinces of the Dominion, and the number of farms has steadily increased. The Prince Edward Island Silver Fox Breeders' Association was formed in 1915, and the Canadian Silver Fox Breeders' Association in 1920. Branch associations of the Canadian Association are established in most of the provinces, and silver foxes are eligible for registration in the Canadian National Live Stock Records. In addition to the silver fox, the patch or cross fox, the red fox, and the blue fox are raised on Canadian fox farms.

Although the fox is of chief importance, other kinds of wild furbearing animals are being raised successfully. The mink, in particular, is easily domesticated, and thrives in captivity if care is exercised in the selection of environment and proper attention given to its requirements in the matter of diet. There are now 636 mink farms distributed among the various provinces, and mink farming in Canada may be regarded as permanently established. The raccoon is another fur bearer which can be easily domesticated, but as raccoon is one of the lower priced furs and the margin between expenditure for the animal's keep and the value of the pelt consequently small, it has not reached a position of importance in the industry. The high prices obtainable for fisher and marten pelts have encouraged efforts to raise these animals in captivity, and although the work is still in an experimental stage a moderate amount of success for each kind has been attained.

Muskrat farming also is a branch of the industry to which attention is being directed, and numerous areas of marsh land are being utilized for raising this fur bearer. The farming of muskrats consists chiefly of making provision for an adequate food supply for the animals and in giving protection from their natural enemies, i.e., hawks, owls, etc. Many muskrat farms have been enclosed with strong wire fencing.

The Dominion Department of Agriculture conducts, at Summerside, P.E.I., an experimental fur farm for the study of matters affecting the health of wild fur bearers, especially the silver fox, in captivity. The Ontario Department of Game and Fisheries and the Quebec Department of Public Works, Game and Fisheries also operate experimental fur farms.

In 1935 there were in operation in Canada a total of 7,495 fur farms. an increase over the preceding year of 476. Of the total number, 6.632 were fox farms and the remainder, farms raising various other kinds of furbearing animals. In the miscellaneous class the mink farms are the most numerous, with a total of 636, and following are raccoon farms with a total of 120. The total value of property is recorded at \$15,972,650, this total comprising \$6,590,825, the value of the land and buildings used in connection with fur farming, and \$9,381,825, the value of the fur-bearing animals on the farms at the end of the year. The number of fur-bearing animals of all kinds born on the farms (exclusive of muskrat and beaver for which particulars cannot be supplied by the fur farmers) during the year was 245,528, including 184,988 silver foxes, 6,989 foxes other than silver and 53.551 animals of the miscellaneous group. The number of silver foxes born was the largest recorded in any year in the history of fur farming, and was an increase over 1934 of 29,945, or 19 p.c. The number of minks born on the farms was 48,961, an increase over the preceding year of 13,586, or 38 p.c. The sales of live fur-bearing animals from the farms were chiefly those of silver foxes and minks, the former showing a total of 9.901, valued at \$562,480, and the latter a total of 3,574, valued at \$73,402. The total amount received from the sales of live fur-bearing animals was \$649,432, compared with \$573,051 in 1934. The pelts sold from the farms in 1935 had a total value of \$4,870,995, an increase over 1934 of \$904,985. To the total value, the sales of silver fox pelts contributed \$4,437,302, or 91 p.c., and of mink pelts, \$323,263, or 7 p.c. The highest price received by any one farm for a single silver fox pelt during the year 1935 was \$200, compared with a high of \$176 in the preceding year. Altogether, the farms received from the sales of live fur-bearing animals and of pelts during 1935 a total of \$5,520,427, compared with \$4,539,061 in 1934.

Export Trade in Furs.—The important markets for Canadian furs are London and New York; the trade tables for the 12 months ended June 30, 1936, show that of the value of raw furs exported, viz., \$16,159,275, the United Kingdom received \$9,321,147 and the United States \$6,015,782. At the close of the Great War, Montreal took a position as an international fur market, holding the first Canadian fur auction sale in 1920. At the sales held in Montreal during the year 1935 the pelts sold numbered 1,342,769 while the value amounted to \$4,562,669. Fur auction sales are held also at Winnipeg, Edmonton, and Vancouver.

In 1667 exports of furs to France and the West Indies were valued at 550,000 francs. In 1850, the first year for which trade tables of the Customs Department are available, the value of raw furs exported was £19,395 (\$93,872); for the year ended June 30, 1920, the value was \$20,417,329; for 1925. \$17,131.172; for 1930, \$17,187,399; and for 1935, \$15,224,342. As seen from the 1936 figures quoted in the previous paragraph, the value of raw furs exported in that year showed an increase of more than 6 p.c. compared with 1935, but the proportion going to the United Kingdom fell by nearly 5 p.c.

CHAPTER IX

THE WATER POWERS OF CANADA

To the fortunate occurrence of Canada's water powers in close proximity to her other great resources of field, forest, and mine is due much of the industrial progress which has made the Dominion, in spite of her limited



A Large Hydro-Electric Generator being installed in a Canadian Central Electric Station.—The picture gives some idea of the complex engineering task involved.

population, the second greatest manufacturing country of the British Empire. Exports to the other Dominions and to the United States now consist very largely of manufactured goods.

Canada's hydraulic installation as at Jan. 1, 1938, was a total of 8,112,751 h.p. and this represents only 18.6 p.c. of her total estimated hydro-power potentialities of 43,700,000 h.p.

The table below shows the hydraulic turbine installation as at Jan. 1, 1938, and also the estimated potential power by provinces. These estimates include only rivers where the flows and heads have been measured; they are based on continuous power available twenty-four hours each day at 80 p.c. efficiency, i.e., 80 p.c. of the theoretical power. The two estimates shown are: firstly, power available throughout the year based on the minimum flow or flow during the dry periods; and secondly, the maximum available for six months. Because power is seldom required continuously 24 hours each day to the full capacity of the generating equipment, water can generally be stored during the hours of light demand and used during the hours of heavy demand. Consequently, whenever feasible, power plants are equipped with generating machinery having a capacity much greater than the theoretical continuous power of the waterfall.

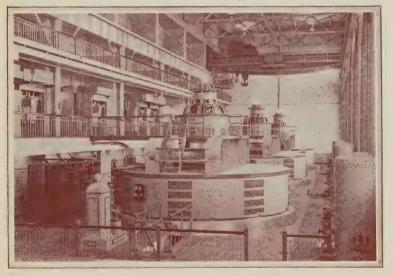
Available and Developed Water Power, by Provinces, Jan. 1, 1938

	Available 24 at 80 p.c.	Turbine	
Province or Territory	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	Installa- tion
Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan.	20,800 68,600 8,459,000 5,330,000 3,309,000 542,000	h.p. 5,300 128,300 169,100 13,064,000 6,940,000 5,344,500 1,082,000	h.p. 2,439 123,437 133,681 3,999,686 2,577,380 405,325 61,035
Alberta British Columbia Yukon and Northwest Territories Canada.	1,931,000	1,049,500 5,103,500 731,000 33,617,200	71,597 719,972 18,199 8,112,751

The progress of water-power development in Canada has been extremely rapid. The general improvement in business and industry is creating a demand for power which already indicates a resumption of the large scale building that was somewhat retarded during the depression period.

Provincial Distribution of Water Power.—The water powers of the Maritime Provinces, while small in comparison with the sites in the other provinces, constitute a valuable economic resource, the development of which is supplemented by power from abundant indigenous coal supplies. Quebec, with almost double the available water power and more than one and one-half times the hydraulic installation of Ontario, the province next in order, has achieved a remarkable development during the past ten years, her installation considerably more than doubling in that period.

More than 83 p.c. of her total installation is operated by nine large jointstock company central station organizations. Ontario, like Quebec, without local coal supplies, also has abundant water-power resources. The Hydro-Electric Power Commission of Ontario, a co-operative municipally-owned enterprise, province-wide in its field, operates plants aggregating almost 63 p.c. of the total hydraulic installation of the province and serving 782 municipalities. Of the Prairie Provinces, Manitoba has the greatest power resources and the greatest development, 77 p.c. of the total hydraulic development of the three provinces being installed on the Winnipeg river to serve the city of Winnipeg and adjacent municipalities and, over the transmission network of the Manitoba Power Commission, some 60 municipalities in southern Manitoba. British Columbia, traversed by three distinct mountain ranges, ranks fourth in available power resources and her hydraulic development is exceeded in only Quebec and Ontario. The water powers of the Yukon and Northwest Territories, while considerable, are so remote from markets as to limit their present commercial development to local mining uses.



Alexander Power Development, Nipigon River.—Three modern units, aggregating 54,000 horse-power, in the generating room.

*Courtesy, Hydro-Electric Power Commission of Ontario.

Construction During 1937.—Construction during 1937 extended from coast to coast and included the following work, by provinces:—

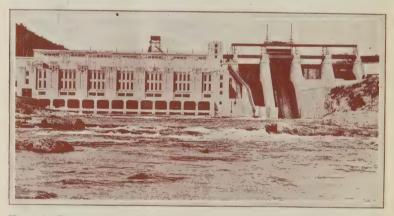
In British Columbia, the addition of a second unit with a capacity of 47,000 h.p. to the plant of the Western Power Company of Canada at Ruskin on the Stave river. This plant is interconnected with the two other plants of the company on the same river and the Coquitlam-Buntzen hydro-electric plants of the Vancouver Power Company. The entire output of the combined systems is distributed by the parent company, the British Columbia Power Corporation, in Vancouver and the surrounding district

In Saskatchewan, the Churchill River Power Company added a new unit, 19,500 h.p. to its 42,000 h.p. plant at Island Falls on the Churchill river, 60 miles northwest of Flin Flon. The growth of demand in the Flin Flon mining area necessitated the additional installation. The construction of a 6,000 to 7,000 h.p. hydro-electric plant is part of the development program being undertaken at Goldfields, in the Lake Alhabaska district by the Consolidated Mining and Smelting Company of Trail, B.C.

The municipality of Winnipeg, Manitoba, is adding a third unit of 12,500 h.p. to its Slave Falls station on the Winnipeg river. The output of this plant, like that of the city's Point du Bois station 6 miles upstream, is

transmitted some 90 miles for distribution in Winnipeg.

In Ontario, the Great Lakes Power Company completed, early in the year, a 10,000 h.p. plant at Montreal Falls on the Montreal river and is reported to be commencing the construction of a second development with a similar installation at the mouth of the same river. The output of these two plants will augment the supply of the Company's other plants at Sault Ste. Marie and Michipicoten Falls and is designed to provide for the demand for power due to the development of the Helen iron mine and to the construction of a proposed new pulp mill at Michipicoten.



View of a Recently Completed Hydro-Electric Installation, Rapide Blanc, P.Q.

Courtesy, Shawinigan Water and Power Company Limited, Montreal.

The Hydro-Electric Power Commission of Ontario proposes to meet the increased power demands of the Georgian Bay system by the construction of a plant at Ragged Rapids on the Musquash river. An installation of 10,000 to 12,000 h.p. is under construction and while the plant could not be completed during the year 1937 most of the transmission and other facilities required to deliver its output to the system were being constructed in order that use might be made of power purchased from the municipality of Orillia.

The Commission reports the development of important mining loads in the Beardmore-Geraldton territory which are being served by the construction of improved transmission facilities on its Thunder Bay system. A similar growth of mining load has occurred in the Abitibi dis-

trict of the northern Ontario properties, the district supplied from the Abitibi Canyon development, and this is also being met by the extension of transmission and distribution facilities. In the Sudbury district the existing generating equipment is fully loaded and new capacity is being provided from the Crystal Falls plant on the Sturgeon river, recently acquired by the Commission from the Abitibi Power and Paper Company.

In the province of Quebec, the Saguenay Power Company has just brought into operation the twelfth and final unit of 45,000 h.p. of its plant at Ile Maligne on the Saguenay river while the St. Maurice Power Corporation, controlled jointly by the Shawinigan Water and Power Company and the Brown Corporation, plan to commence, during the current winter, the construction of a plant near La Tuque on the upper St. Maurice river. The initial installation is planned to be 4 vertical units of 40,500 h.p. each and settings are to be placed for the later installation of two similar units. At Outardes Falls, on the Outardes river, the Ontario Paper Company is completing a 70,000 h.p. hydro-electric plant to operate its new paper mill and townsite at Baie Comeau, ten miles distant.

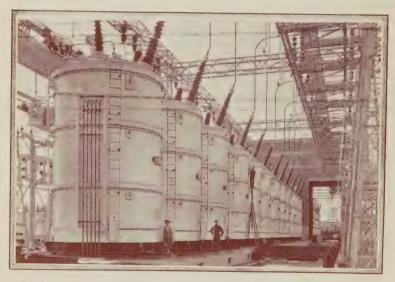
The Nova Scotia Power Commission has been securing tenders for the construction of a 5,200 h.p. plant at Cowie Falls on the Mersey river to supply the increasing power demands of the Mersey Paper Company, while the Minas Basin Pulp and Paper Company is proceeding with the second and final stage of the St. Croix river development by the installation of a 2,500 h.p. unit at Salmon Hole site.

Central Electric Stations

Over 88 p.c. of all water power developed in Canada is developed by central electric stations and, although there are a large number of stations (250) which derive their power entirely from fuels and 40 hydraulic stations which also have thermal auxiliary equipment, 98 p.c. of all electricity generated for sale is produced by water power.

The production of electricity by central electric stations amounted to 5,500,000,000 kilowatt hours in 1919, the first year for which such data are available. Six years later it was almost doubled, by 1928 it had more than trebled and by 1930 it amounted to 18,000,000,000 kilowatt hours. continued depression in manufacturing industries the output started to decline late in 1930 and continued into 1933, but from June, 1933, to date there has been an almost continuous succession of increases each month after adjusting for normal seasonal variations. The output for March, 1937, at 2,412,259,000 kilowatt hours, was the largest in the history of the industry and an estimate for the present year is a new high at 28,000,000,000 kilowatt hours, or over five times the output of 1919. Only one other country (Norway) has a greater output per capita and only one other country (United States) has a greater total output irrespective of size. One reason for this large use of electricity produced by central stations is the absence of coal in the central provinces and the large quantities of water power available within transmitting distances of the principal manufacturing centres. The pulp and paper industry, which uses enormous quantities of power, has also been an important factor in this rapid increase and now uses about 40 p.c. of the total energy produced by

central electric stations in addition to power produced within the pulp and paper mills. The use of electric furnaces has been growing and about 7 p.c. of the total central electric station output is now consumed by them. Low rates and reliable service have increased the domestic use for lighting, cooking, water heating and other household uses; the average per capita consumption has risen to 1,262 kilowatt hours per annum, about twice that in the United States where living standards are very similar. Secondary power used in electric boilers, mainly in pulp and paper mills, has increased from a very small quantity in 1924 to almost 7,000,000,000 kilowatt hours in 1936. Although the production of this secondary power swells the total output, the consumption of firm power, or total output less secondary power for electric boilers and exports to the United States, has continued to increase and reached a peak in September, 1937, of 1,564,502,000 kilowatt hours, the adjusted index number being 203 (1926 average = 100).



A Bank of Large Transformers at Leaside, Toronto.—For the transmission of electric power over long distances, the voltage has to be "stepped-up" to high tension. The above transformers are at the receiving end of the 230-mile, 220,000-volt transmission lines carrying power to Toronto from the Ottawa district.

Courtesy, Hydro-Electric Power Commission of Ontario.

The rated capacity of electric motors in manufacturing industries in Canada in 1935 was 77.9 p.c. of the total capacity of all power equipment in these industries, the increase from 61.3 p.c. in 1923 being almost continuous. In the mining industries this conversion to electric drive has been even greater, growing from 57.3 p.c. in 1923 to 75.7 p.c. in 1935. Almost 85 p.c. of these electric motors in manufacturing industries and 86 p.c. in mining industries in 1935 were driven by power produced in central stations. The remainder were driven by power produced within the industries.

Mechanical power, particularly electric motors, has been increasing in manufacturing industries much more rapidly than the number of employees during the past decade. From 1923 to 1935 power equipment, measured in horse-power, increased by 102.5 p.c., whereas the number of employees increased by only 10.4 p.c. Of course, employees decreased from 1929 to 1935, while power equipment continued to increase, but even at the peak of employment in 1929 the increases over 1923 were 80.2 p.c. for power equipment and 31.9 p.c. for employees. These percentage increases are affected by the relative status of each class of power at the beginning of the period and also by the more or less general practice of installing a surplus of motor capacity in plants where each machine has its own motor. One horse-power is equivalent approximately to the capacity of ten men. Consequently in 1923 for each employee there was power equipment with a capacity of 42 men and by 1929 this had grown to a capacity of 57 men. The load factor, or extent to which the available power equipment and man power were used, is not known, but quite probably the ratio between use and available capacity was changed very little during these six years.

Electricity, principally hydro-electric energy, is also displacing coal and oil to heat furnaces, ovens and boilers, and is doing enormous quantities of work in electrolytic refining of metals, production of fertilizers, metal plating and so forth.

Investments in central electric stations for 1935 amounted to \$1,459,821,000, which was larger than for any other manufacturing industry; revenues amounted to \$127,177,954 and 1,401,983 domestic customers were served. These are approximately 60 p.c. of all families in Canada, both urban and rural.

The average monthly output of the large central electric stations in Canada, 1926-37, is shown below.

Average Monthly Output, Central Electric Stations in Canada, 1926-37

Year	From Water	From Fuel	Total
	'000 k.w.h.	'000 k.w.h.	'000 k.w.h.
926.	991.041	16,746	1,007,78
927	1,193,481	18,944	1,212,42
928		21,192	1,361,48
929	1,441,203	27,622	1,468,85
930	1,463,330	25,230	1,488,50
931	1,339,907	26,071	1,365,9
932	1,296,360	25,845	1,322,2
933	1,436,486	26,150	1,462,6
934		29,484	1,763,2
935	1,917,958	32,410	1,950,3
936		37,452	2,116,1
937 (nine-month average)	2,219,664	40,025	2,259,6

The above figures are interesting as showing the consistent progress of the industry from 1926 to 1930. Even in the worst of the depression years, 1932, the drop in output was only a little over 11 p.c. of the maximum, and, from June, 1933, onward there has been very rapid and fairly continuous increase. The index number adjusted for seasonal variations reached an all-time high point at 239.83 in June, 1937, the average for 1926 being equal to 100.

CHAPTER X

THE MANUFACTURES OF CANADA

The present century has witnessed the chief forward movement in Canadian manufactures, mainly as the result of two great influences: first, the opening up of the West, which greatly increased the demand for manufactured goods of all kinds and especially construction materials; and secondly, the War, which left a permanent imprint upon the variety and efficiency of Canadian plants. By 1920, the gross value of Canadian manufactured products was no less than \$3,772,000,000, the capital invested \$3,372,000,000, and the number of employees 609,586. Hundreds of millions of capital had been attracted from outside (see p. 27) in achieving this striking result. After 1920 the figures declined, but subsequent gains brought them back, for 1929, to even higher levels than 1920, as the table on p. 94 shows.



Cotton Twisting in the Eastern Townships.—This picture shows the yarn, wound 700 to 1,000 strands on large beams (cylinders) placed as shown. Each three strands are being twisted together, by the machine illustrated, this being one operation in the manufacture of the very strong cord required for automobile tires.

Courtesy, Southern Canada Power Company Limited, Montreal

Effects of the Depression on the Manufacturing Industries of Canada.—The downward trend in manufacturing operations which began in the autumn of 1929 continued with increasing force to about the middle

of 1933. As a result, the output of manufactured products in 1933, valued at \$2,086,847,847, was the lowest annual average reached in the period. This was a decrease of 48·2 p.c. as compared with the peak year of 1929. In 1935 the value of production amounted to \$2,807,337,381, an increase of 10·8 p.c. over the previous year but still 30·3 p.c. below the 1929 level.



Operations in the Brass Foundry of a Canadian Plant.

Inset: A corner of the iron foundry.

Courtesy, Canadian Westinghouse Company, Limited.

The number of persons employed dropped from 694,434 in 1929 to 493,903 in 1933, a decrease of 28·9 p.c. For 1935, however, the number of employees was 582,874, an increase of 6·9 p.c. over the 1934 figures. In spite of this increase, the employees in 1935 still numbered 16·1 p.c. below the 1929 figure. The decline in salary and wage payments exceeded even that of the number of employees, the drop between 1929 and 1933 being \$347,487.752, or 42·7 p.c. The increase in salary and wage payments in 1935 over 1934 amounted to \$56,732,269. Average earnings per employee, which

in 1933 amounted to \$943, represented a decrease of 19.5 p.c. from the average earnings of \$1,171 in 1929. For 1935 average earnings were \$1,013.

The growth of manufacturing production since 1870 is shown in the following table. The increasing importance of Canadian manufacturing for the international market is illustrated by the figures for Canadian exports of manufactured products which increased from less than \$3,000,000 per annum on the average of 1871-75 to \$614,000,000 in the post-war fiscal year ended Mar. 31, 1920. Exports of "fully or chiefly manufactured" products in the fiscal year ended Mar. 31, 1935, amounted in value to \$285,484,014, and exports of "partly manufactured" products to \$136,629,437.

Historical Summary of Statistics of Manufactures, 1870-1935

Year	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ³	Gross Value of Products
	No.	8	No.	\$	8	\$	\$
1870	41,259	77,964,020	187,942	40,851,009	124,907,846	96,709,927	221,617,773
1880	49,722	165, 302, 623	254,935	59,429,002	179,918,593	129,757,475	309,676,068
1890	75,964	353, 213, 000	369,595	100,415,350	250,759,292	219,088,594	469,847,886
19001	14,650	446, 916, 487	339, 173	113, 249, 350	266, 527, 858	214, 525, 517	481,053,375
19101	19,218	1,247,583,609	515, 203	241,008,416	601, 509, 018	564, 466, 621	1,165,975,639
19202	23,351	3, 371, 940, 653	609,586	732, 120, 585	2,085,271,649	1,686,978,408	3,772,250,057
19292	23,597	5,083,014,754	694,434			1,894,910,456	
19302	24,020	5,203,316,760	644,439	736,092,766	1,666,983,902	1,665,631,770	3,428,970,628
19312	24,501	4,961,312,408	557,426	624,545,561	1,223,880,011	1,390,409,237	2,698,461,862
19322	24,544	4,741,255,610	495,398			1,097,284,291	
19332	25,232	4,689,373,704	493,903			1,048,259,450	
19342	25,663	4,703,917,730	545, 162			1,222,943,899	
19352	25,491	4,698,991,853	582,874	590,326,904	1,420,885,153	1,302,179,099	2,807,337,381

¹ Includes all establishments employing five hands or over.

² Includes all establishments irrespective of the number of employees but excludes construction and custom and repair work.

³ For and since 1929 the figures for the net value of production represent the gross value less the cost of materials, fuel and electricity. Prior to this, only the cost of materials is deducted.

Groups of Industries

Among the manufacturing groups, analysed on a purpose classification basis, and judged by gross value of production, the producers materials group, which includes manufacturers and building materials, ranked first in 1935 with 30·1 p.c. of the total value of manufactured products. The industries manufacturing food products came second with 21·9 p.c. of the total, followed by the industrial equipment group with 18·7 p.c., clothing industries 8·9 p.c., vehicles and vessels 7·7 p.c., drink and tobacco 4·3 p.c.

Significant changes have occurred since 1922 in the importance of the various groups. Indicative of the increasing industrialization of the Dominion is the increase in the "industrial equipment" group from 17.0 p.c. of the total value of production in 1922 to 18.7 p.c. of the total in 1935, and the increase in "producers materials" from 26.8 p.c. to 30.1 p.c. during the same period. Another significant change is the decline in the "food" group which dropped from a production of 27.1 p.c. to 21.9 p.c. of the total. Whereas in 1922 food products comprised the leading group, in 1935 the output of producers materials ranked first in importance. The following groups improved their position since 1922: vehicles and vessels advanced from an output of 6.5 p.c. to 7.7 p.c. of the total value of production; drink and tobacco from 4.0 p.c. to 4.3 p.c.; and books and stationery from 4.0 p.c. to 4.2 p.c. The following groups declined in importance: the clothing group dropped from 9.5 to 8.9 p.c.; house furnishings from 2.5 to 1.9 p.c.; and personal utilities from 2.3 to 1.5 p.c.

Census of Manufactures, by Provinces and Purpose Groups, 1935

Province or Group	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
PROVINCE	No.	\$	No.	\$, - \$	\$	\$
P.E.I. N.S. N.B. Que. Ont. Man. Sask. Alta. B.C. and Yukon.	261 1,350 872 7,942 10,266 1,099 880 1,002	3,508,905 118,999,064 115,635,568 1.664,198,107 2,064,194,151 198,822,314 66,271,171 96,322,781 371,039,792	1, 108 16, 060 13, 937 189, 671 281, 438 23, 239 6, 355 12, 087 38, 979	618, 406 14, 042, 674 11, 680, 095 173, 354, 585 303, 807, 207 24, 701, 066 6, 524, 411 12, 504, 449 43, 094, 011	31,647,800 25,551,371 398,566,702 718,570,816 67,929,760 28,046,921 42,831,636	30, 995, 130 27, 643, 366 393, 805, 691 668, 918, 734 47, 349, 314 16, 976, 149 28, 932, 217	3,356,006 67,109,172 56,344,190 821,020,796 1,423,562,474 117,734,292 46,821,302 73,282,607
Totals	25, 491	4,698,991,853	582,874	590,325,904	1,420,885,153	1,302,179,099	2,807,337,381
Purpose Group							
Food	8,561	405, 894, 748	83,930	78, 173, 759	415,364,620	188, 689, 195	614,425,247
Drink and tobacco Clothing Personal	677 2,444	183,501,357 177,567,199	19,165 95,893	19,785,411 75,673,525	49,941,998 129,135,498	69,784,641 117,610,564	121, 157, 062 249, 520, 483
utilities	612	39,588,755	10,284	10,333,919	21,585,937	21,221,331	43,453,234
furnishings.	679	66, 402, 670	18,018	15,911,383	24,494,871	27,326,024	52,944,629
Books and stationery	2,262	128,707,801	36,626	46,896,177	34,354,450	81,810,214	117,736,267
Vehicles and vessels	464	226,007,916	45,717	53,362,973	120,325,337	90,876,144	215, 103; 397
Producers materials	6,737	1,410,095,540	177,160	175,890,774	427,693,908	369,999,860	845, 108, 272
Industrial equipment. Miscellaneous	2,897 158	2,037,312,404 23,913,463	91,835 4,246	109,494,019 4,804,964	187,338,713 10,649,821	322,901,939 11,959,187	524,836,751 23,052,039

¹ Gross value less cost of materials, fuel and electricity.

FOOD INDUSTRIES

This group, although ranking second in gross value of production, is, nevertheless, first in popular interest. To supply the daily needs of the Canadian people for food is a huge task requiring the labour of many people and an organization which is world-wide in its ramifications. Some of the leading industries in this group with their gross value of production in 1935 are as follows: slaughtering and meat packing, \$133,379,312; butter and cheese, \$99,888,971; flour and feed mills, \$97,567,868; bread and other bakery products, \$59,400,668; biscuits and confectionery, \$41,197,833; fruit and vegetable preparations, \$38,276,487; sugar, \$36,597,997; coffee, tea and spices, \$24,214,761; fish curing and packing, \$23,458,356; miscellaneous foods, \$14,639,623; breakfast foods, \$9,655,049; condensed milk, \$8,142,184; etc. A brief review of the more important of these industries follows.

Slaughtering and Meat Packing.—Slaughtering and meat packing is the leading industry of the food group. In 1935 its output was valued at \$133,379,312; it furnished employment to 10,674 persons who were paid \$12,448,347 in salaries and wages. About \$91,000,000 was paid out by packers for live stock. This industry is, therefore, of considerable importance to the agricultural economy of the Dominion. The packing plants are concentrated in the larger centres of population and are located in all

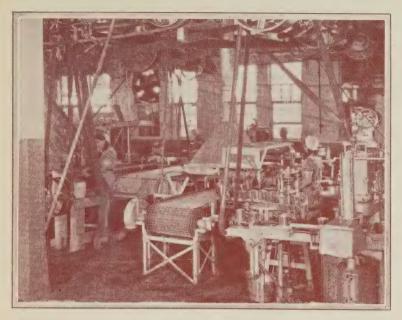
provinces. Toronto is the chief centre, while Montreal, Winnipeg, St. Boniface, Edmonton, and Vancouver are also of considerable importance. The production of meat is carried on on a large scale. Of the 139 establishments, 30 contributed 89 p.c. of the total output, while 7 of the largest plants had an average production of over \$10,000,000. The same is true of employment. Twenty-seven plants reported 85 p.c. of the total number of persons employed, while the five largest plants averaged over 800 employees each. This industry contributes materially to the foreign trade of Canada. The exports in 1935 totalled \$33,423,617, the principal items being "bacon and hams" and "shoulders and sides". Hides and skins, sausage casings, gelatine and meat are some of the more important similar products imported. In 1935 the value of such imports totalled \$8,751,560.

Dairy Products.—Manufacturing statistics of dairy production are given in the chapter on Agriculture at p. 54.

Flour Milling.—The flour-milling industry with an output valued at \$81,955,937 in 1935 is one of the leading industries of the group from the point of view of gross value of production. This industry, which has existed to meet the domestic needs for more than 300 years, is one of the Dominion's oldest manufactures, but it is only within recent times that its progress has become outstanding. The War and the demand it created gave a great impetus to this trade. The 384 flour mills, many of them of the most modern type and highest efficiency, have a capacity far in excess of Canada's demands. During 1928, productive capacity reached about 121,000 barrels per day. Since then, this industry has been adversely affected by the difficulties which beset the Canadian grain trade and the great decline in the prices of grains. Exports of wheat flour declined from 10,737,266 barrels in 1928 to 4.881,057 barrels in 1935, but in spite of the decrease Canada continues to be one of the leading exporters of wheat flour.

Bread and Other Bakery Products.—With the increase in urban population, as well as the improvement in transportation, which increasingly enables rural communities to purchase factory-made bread, the bread industry made rapid strides during the past decade. During this period there was an increase of 30 p.c. in the capital invested and 54 p.c. in the number of employees. The production of bread and other bakery products required the labour of about 19,000 people in 1935. This industry had an output valued at \$59,400,668 in 1935, a capital investment of \$47,788,924, employees numbered 19,167, and the salaries and wages paid amounted to \$16,369,912. This industry was thus the third largest employer of labour among the manufacturing industries of the country. In salaries and wages paid, however, it ranked only eighth.

Canned Foods.—The development in the production of canned foods in Canada has shown a remarkable expansion since the beginning of the twentieth century. In 1900 the total value did not exceed \$8,250,000, but in 1930 it had increased to more than \$55,000,000, or six and one-half times as much. In 1933 the value of production dropped to \$33,000,000, and rose again to \$45,000,000 in 1935. The principal commodities used in the canning industry are: fish, fruits and vegetables, milk and meats, while the industry itself forms an adjunct of considerable importance to other



Fruit Canning in Canada.—A machine for sealing cans after they have been filled with fruit.

Courtesy, Canadian Government Motion Picture Bureau.

industries, notably the tin-can industry, the wooden-box industry, and the paper and printing industries. The development of the canned foods trade has effected great changes in the relation of foods to seasons. Fruits and vegetables of many kinds, retaining much of their original freshness and flavour, are to be had at all times of the year. Producers in the country are provided with an enormously extended market, and consumers in both city and country with cheap and wholesome food in great variety. The consumer also enjoys protection by frequent inspections (under the Meat and Canned Foods Act, 1907, and subsequent amendments) by the Health of Animals Branch of the Dominion Department of Agriculture.

Quantity and Value of Principal Foods Canned in Canada, 1935

Product	Quantity	Value
Fish case Fruits " Vegetables " Meats Ib Soups case Concentrated milk products case Other foods	2,106,807 1,825,613 6,602,822 4,007,740 1,603,685	\$ 13,638,127 4,757,301 12,101,138 862,572 3,978,806 6,849,989 3,112,009
Total	-	45,299,942

Fish Canning.—The principal varieties of fish used in Canadian canneries are, in order of their importance: salmon, lobsters, sardines, herring, clams, haddock, and pilchards.

The salmon-canning industry is practically confined to the province of British Columbia, and dates as far back as 1876 when the initial pack was 9,847 cases, drawn wholly from the Fraser River area. By 1926 the pack had increased to 2,065,190 cases, constituting the second highest record pack for the industry, while in 1930 the pack had increased to 2,223,469 cases, the high record to date. In 1935 the pack amounted to 1,530,320 cases valued at \$9,663,305.

Next to the salmon-canning industry of the Pacific coast comes the lobster-canning industry of Nova Scotia, New Brunswick, Prince Edward Island, and Quebec. The industry dates from 1870 when Nova Scotia produced 30,000 cans and New Brunswick 20,000 cans. In the following year a factory was started in Prince Edward Island with an initial pack of 6,711 cans. The growth of the industry in over 65 years is indicated by the output of the 304 canneries operating in Canada in 1935 which amounted to 99,905 cases of 48 lb., valued at \$2,195,633. Large quantities of canned lobster are exported annually to the United Kingdom, the United States, and France.

Sardine canning is confined almost wholly to the province of New Brunswick. The name of sardine as applied to the Canadian fish is not the true one as the fish used in the canneries of New Brunswick are the young of the herring. The first mention of a sardine industry in Canada, so far as is known, dates back to sometime in the late 'sixties. Although there are but three canneries operating, they are of large capacity, and the total pack in 1935 amounted to 338,436 cases valued at \$1,180,111. The imports of canned sardines in 1935 amounted to \$359,966 and came principally from Norway. Exports to the value of \$448,150 were reported in 1935, principally to British Dominions and dependencies.

Canned Fruits and Vegetables.—The fruit and vegetable preparations industry, which includes canned fruits, canned vegetables, pickles, vinegar, jams, etc., comprises another large division of this group. In 1935, this industry reported an output valued at \$38,276,487, a capital investment of \$38,272,379 and an employment of 7,912 persons, who received \$5,063,481 in salaries and wages. The industry has made rapid strides in the past few years. During the period 1923-35 the volume of fruit and vegetable preparations produced increased 155 p.c. This growth is remarkable indeed, as it represents a corresponding increase in the domestic demand for these products, the foreign trade being relatively small as compared with the domestic production. Imports in 1935 were valued at \$2,652,961 and exports at \$5,138,094. According to these figures, the industry, besides supplying the domestic requirements, has also a small exportable surplus.

Biscuits and Confectionery.—The value of biscuits and confectionery produced in Canada totalled \$41,180,949 in 1935. Of this amount \$12,145,850 was represented by biscuits, \$19,736,768 by chocolate and sugar confectionery, and the balance of \$9,298,331 by cocoa and chocolate, nuts, and other products. Large quantities of biscuits and confectionery are consumed annually in Canada. In 1935, the per capita consumption of

biscuits amounted to 8.86 pounds and confectionery 10.9 pounds. The biscuit, confectionery, cocoa and chocolate industry is thus of considerable importance in Canada. In 1935 there were 234 establishments reporting. These plants had a capital investment of \$37,779,319; they furnished employment to 10,446 persons who were paid \$9,315,563 in salaries and wages. The industry is concentrated mainly in Ontario; the 92 plants located there had 60 p.c. of the capital, 50 p.c. of the total employees in the industry, and produced 57 p.c. of the entire output.

Sugar.—The production of sugar requires the construction of large factories entailing huge capital investments. In 1935 there were 8 plants in operation with an average investment in fixed and current assets of over \$4,000,000 each. The location of these plants was as follows: Nova Scotia. 1; New Brunswick, 1; Quebec, 2; Ontario, 2; Alberta, 1; and British Columbia, 1. The selling value at the factory of the products made by the industry totalled \$36,597,997. To produce the large quantity of sugar required by Canadians, it took the labour of 2,134 persons who received \$3,086,691 in salaries and wages. The quantity of sugar produced reached the huge total of 969,017,643 lb., enough sugar to allow more than 88 lb. to every person in Canada. Both cane and beet sugar are produced. Beet sugar is produced in Ontario and Alberta and constituted 12.4 p.c. of the total output in 1935. The production of beet sugar has risen considerably during the past decade, the output having increased from 70,388,105 lb. in 1926 to 119,857,668 lb. in 1935. This development is important for the farming communities of Ontario and Alberta where these plants are located, as the sugar beets used by the refineries are grown in Canada.

The sugar-refining industry is, therefore, of considerable importance in the industrial life of Canada. The demand created by the War gave it a great impetus. All things considered, 1919 was a record year. The number of persons employed (3,491), the value added by manufacture (\$16,321,882), and the exports (\$22,953,135), were the highest recorded, while the volume of sugar manufactured was only 10 p.c. lower than that of the peak year 1925 when 11,714,967 cwt. was produced. Since 1925, however, exports of sugar have declined with the result that production and employment slackened considerably. In 1935 exports totalled only 38,073 cwt.

Leading Individual Industries

Central electric stations and non-ferrous metal smelting, industries based upon water-power and mineral resources, have taken their places among the leading manufactures of Canada along with the industries based upon forest, agricultural and live-stock resources.

The pulp and paper industry, although of comparatively recent development, had, by 1923, displaced flour milling as Canada's most important manufacturing industry and, in spite of recent vicissitudes, held that position up to 1935 when it was displaced by the non-ferrous metal smelting and refining industry. In employment and salaries and wages paid, however, pulp and paper is still the leading industry.

The incidence of the depression resulted in a re-arrangement in the rank of many industries which has already proved temporary in some $45174-7\frac{1}{2}$

THE MANUFACTURE OF CEMENT



From top to bottom, the layout shows: (1) A large tank for storing "slurry" (a soupy mixture of clay, limestone, and water in proper proportions). The travelling agitator is seen over the tank. (2) An exterior view of the centre portion of of a steel tube 11 feet in diameter and 413 feet long. It is supported by tires about 100 feet apart which run on roller bearings (see near end of kiln in picture). Although the kiln weighs about 500 tons, when empty, it is so delicately balanced that it can be turned by a hand-crank. The kiln, when full, holds 120 tons of slurry and is rotated by the electric motor shown geared to it. (3) An interior view of the chain section (feed end) of the kiln. This section extends to about one-fifth of the length of the kiln. The hot chains keep the slurry moving and dry it out; they also prevent much dust from passing out from the kiln through the stack. From this section the slurry passes into the "calcining section" (about 180 feet long) where the temperature is between 2,500° and 2,700° F. and the intense heat reduces the slurry to a clinker. Here finely pulverized coal is blown in by compressed air and combustion regulated. (4) The "discharge end" of the kiln showing coolers. The clinker is now cooled off. Each cooler is full of carefully draped chains as in the chain section of the kiln. About 4 p.c. of gypsum is added to the clinker and it is ground and reground so that 90 p.c. will pass through a 200-mesh sieve. The finished product is portland cement.

Courtesy, Canada Cement Company, Limited.

cases. The suspension of capital expenditures, a serious factor in the depression, greatly reduced the output of such important industries as sawmills, electrical equipment, automobiles, railway rolling-stock, primary iron and steel, machinery, etc. On the other hand, the demand for goods for immediate consumption was more stable, including such industries as petroleum products, bakeries, cotton yarn and cloth, printing and publishing, clothing, tobacco, beverages, etc. However, as previously stated, some return to the pre-depression order of importance is in evidence. Comparing the rankings for 1934 with those for 1935, it may be noted that automobiles came up from eighth place to fifth place, sawmills from twelfth to ninth, and electrical equipment from fifteenth to tenth; cotton yarn and cloth, and bread and other bakery products, which appeared in ninth and tenth places, respectively, in 1934, dropped back to twelfth and eleventh places.

Principal Statistics of Fifteen Leading Industries, 1935

Industry	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	\$	No.	\$	\$	\$
Non-ferrous metal smelting and refining	15 95	145, 686, 299 545, 572, 938 1,459,821,168	27,836	35,893,313	57,995,037	
ing. Automobiles. Butter and cheese. Flour and feed mills. Petroleum products.	139 20 2,589 1,127 58	40,765,548 58,291,763 56,475,315 64,707,454	13,095 14,786 5,454 4,856	18,797,599 13,905,135 5,165,507		106,624,445 99,888,971 97,567,868
Sawmills Electrical apparatus and sup- plies. Bread and other bakery pro- ducts	3,698 182 3,045	, ,	25,727 15,549 19,167	17,711,657 17,594,759 16,369,912		65,905,132 61,152,834
Cotton yarn and cloth Rubber goods including foot- wear	35 45	70, 741, 613	18, 121	13,206,265	20,258,774	59,378,664
Printing and publishing Clothing, factory, women's	793 591	53. 721, 846 22, 668, 528	16, 889 17, 894	23,061,512 14,593,861	11, 197, 377 31, 642, 215	55,832,925
Totals, Fifteen Leading Industries	13,473	2,835,357,791	225,473	242,125,871	762,001,068	1,414,839,039
Grand Totals, All Industries	25,491	4,698,991,853	582,874	590,326,904	1,420,885,153	2,807,337,381
Percentages of Fifteen Leading Industries to All Industries	52.9	60.3	38.7	41-0	53 · 6	50.4

Manufactures in Leading Cities

Toronto proper, with an output valued at \$385,883,455 in 1935, exceeded Montreal proper, with \$383,547,972. Greater Montreal, however, is still ahead of Greater Toronto and continues to be the leading manufacturing area in the Dominion. After these two cities come Hamilton with \$114,691,789, Windsor \$104,908,197, Vancouver \$73,981,872, and Winnipeg with \$67,217,042. Twelve other places had manufactures with a gross value of production of over \$20,000,000 in 1935.

Cities of Canada with a Manufacturing Production of Over Twenty
Million Dollars in 1935

City	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products ¹
	No.	\$	No.	\$	\$	\$
Toronto Montreal Hamilton Windsor Vancouver Winnipeg Oshawa Montreal East London Kitchener Quebee Calgary Ottawa Peterborough Three Rivers Sarnia Edmonton Brantford	2, 689 2, 346 484 236 811 616 43 11 251 159 306 164 205 54 47 162 115	386, 898, 652 382, 332, 791 776, 246, 963 64, 298, 564 83, 954, 899 71, 837, 683 22, 042, 343 40, 176, 067 37, 146, 164 33, 432, 62, 62, 62, 62, 62, 62, 62, 62, 62, 6	94, 612 26, 769 15, 227 15, 683 16, 649 5, 796 1, 627 8, 614 8, 815 4, 208 6, 633 4, 515 5, 090 3, 159 3, 825	97, 144, 947 89, 934, 540 30, 162, 244 20, 714, 545 16, 789, 590 77, 498, 353 2, 099, 253 9, 090, 550 7, 505, 880 7, 632, 737 4, 642, 942 7, 521, 545 4, 140, 800 4, 904, 767 3, 816, 221 4, 181, 126 6, 662, 057	39, 863, 397 36, 825, 174 28, 260, 574 34, 347, 750 16, 680, 022 17, 198, 361 11, 937, 885 16, 368, 181 9, 375, 408 12, 414, 632 248, 964 16, 609, 100	21,755,617

¹ Net value is obtained by deducting cost of materials, fuel and electricity used in manufacturing from the gross value.

Conditions During the Years 1932-37.—Perhaps the best all-round barometer of conditions is afforded by the indexes of employment maintained from month to month in the Dominion Bureau of Statistics, and based on returns received from establishments having 15 hands or over. These include the great majority of the total workers.

The year 1929 witnessed the establishment of an unusually high level of employment in manufacturing, as in other lines of business. From the latter part of that year, however, the trend was downward, the recession continuing almost uninterruptedly until the opening of 1933, when the index reached the lowest point on record, standing at 74.4 at Jan. 1 of that year. The recovery in manufacturing which then set in has continued, with few interruptions, and a high point of 121.7 was recorded by the index at Oct. 1, 1937; this was practically the same as the previous maximum of 121.6 indicated at Aug. 1, 1929. The index for the first eleven months of 1937 averaged 114.3, as compared with 103.1 during the same period of 1936.

Indexes of Employment in Manufactures

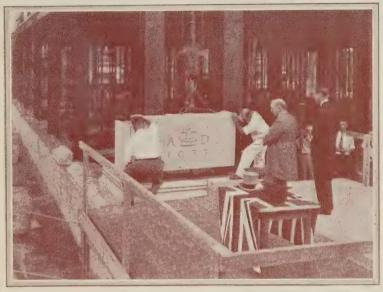
(1926 = 100)

Month	1932	1933	1934	1935	1936	1937	Month	1	1932	1933	1934	1935	1936	1937
Jan. 1 Feb. 1 Mar. 1 April 1 May 1 June 1	83·9 85·9 87·0 87·3 85·8 86·0	76·0 76·8	84·2 86·5 88·1 90·2	93.9		105·3 107·6 110·8 113·8	Aug. Sept. Oct. Nov.	1 1 1 1 1 1 1	85·4 82·6 83·1 84·1 81·7 80·3	83·0 85·2 86·8 86·7 86·5 84·4	93.8 94.2 94.3 94.4 92.8 91.3	99·8 100·8 103·3 103·5	104·7 104·9 105·9 109·0 107·7 107·0	121·2 121·7 119·0

CHAPTER XI

CONSTRUCTION

The construction industry in its various phases is dealt with in this chapter, which presents available data respecting construction work undertaken by public authorities and by private enterprise.



The Laying of the Corner Stone of the New Bank of Canada Building, Ottawa.—The Prime Minister, the Rt. Hon. W. L. Mackenzie King, officiated at the ceremony, which took place on Aug. 10, 1937. The Prime Minister and Graham Towers, Governor of the Bank of Canada, watch the corner stone being lowered into place. (See also p. 154.)

Courtesy, Canadian Government Motion Picture Bureau.

In the past few years of depressed business conditions, public construction work has been of especial importance, both in stabilizing and stimulating the industry. However, since 1933 there have been evidences of increased activity in private and commercial construction undertakings, the former, in the residential field, receiving considerable stimulus from the Dominion Housing Act.

The Dominion Housing Act.—Administered by the Department of Finance, the Dominion Housing Act, 1935, has a twofold purpose: (1) to assist in the improvement of housing conditions; and (2) to assist in the absorption of unemployment by the stimulation of the construction and building material industries. The Minister of Finance is empowered to make advances and to pay expenses of administering the Act to the extent of \$10,000,000. The Act provides for loans for the construction of new dwell-

ings only (including single-family houses, duplexes, and apartment houses). the security taken being in the form of a first mortgage running jointly to an approved lending institution and to the Dominion Government. In most cases, the loans will be for 80 p.c. of the cost of construction of the dwelling or its appraised value, whichever is the lesser; of the loan of 80 p.c. the lending institution will advance 60 p.c. and the Government, 20 p.c. The remaining 20 p.c. is to be provided by the borrower. Provision is also made in certain cases for loans of 70 p.c. or 75 p.c. where desired by the borrower or deemed advisable by the lending institution. The interest rate paid by the borrower is 5 p.c. This is made possible by the fact that the Government's funds are advanced on an interest basis of 3 p.c. Loans are made for a period of 10 years subject to renewal for a further period of 10 years upon revaluation of the security and on conditions satisfactory to all parties concerned. Interest, principal and taxes are payable in monthly instalments. Amortization of principal is effected at a rate sufficient to pay off the loan in 20 years, but more rapid amortization may be arranged to suit the convenience of the borrower. The Act requires sound standards of construction and contains other clauses safeguarding the mortgage.

The Home Improvement Loans Guarantee Act, 1937.—This Act provides for a limited guarantee to chartered banks and certain approved lending institutions in respect of loans made to owners of residential property (including farm buildings) for repairs, alterations and additions to urban and rural dwellings. The loans shall not exceed \$2,000 on any single-family house. In the case of houses containing more than one family unit the amount of the loan shall not exceed \$1,000 plus \$1,000 for every family unit provided. Loans are repayable in equal monthly instalments or in suitable instalments to fit the conditions of the individual borrower.

Loans in the amount of \$1,000 or less must be repaid within 3 years. Loans in excess of \$1,000 must be repaid within 5 years. The maximum charge for loans shall be 3\frac{1}{4} p.c. discount for one-year loan repayable in equal monthly instalments, and proportionate rates for other periods. Approved lending institutions are guaranteed against loss in respect of loans made in accordance with approved conditions to the extent of 15 p.c. of the aggregate amount of such loans made by each approved lending institution.

The limit of the aggregate loans to be guaranteed is \$50,000,000 and the limit of the Government's guarantee is therefore \$7,500,000.

Railways.—The expenditures of railways on maintenance of way, and structures and equipment are not included in the census figures of the construction industries given below and are therefore summarized here. Both steam and electric railways showed increased expenditures for these purposes in 1936 compared with 1935. For steam railways they amounted to \$124,133,303 as against \$112.674,951 in 1935 and \$194,000,000 in 1929. For electric railways the total was \$5,834,426 as against \$5,401,772 in 1935 and \$9,000,000 in 1929. Expenditures on new line of steam railways were \$120,000 in 1936 compared with \$90,000 in 1935, whereas in the years 1928-31 they averaged \$30,000,000 per year.



Hauling Logs to the Sawmill for Cutting into Bridge Timbers to be Used on the Big Bend Columbia Highway, B.C.

Courtesy, National Parks Bureau, Department of Mines and Resources.

Annual Census of the Construction Industries.—The first census of the construction industries, covering public works undertaken by municipal, provincial and Dominion authorities, including Harbour Commissions, as well as those carried on by private contractors and construction companies, refers to the year 1934. The returns for the year 1935 are summarized in the following table, for, since the basis of procedure was not firmly established in 1934, the figures for that year are not comparable with those given below. For instance, after taking the 1934 census, it was decided that much of the work undertaken by country municipalities (grading and scraping of roads, cleaning ditches, weed and brush cutting, etc.) did not fall within the meaning of construction as applied to the census, so that in 1935 reports were received from only 215 municipalities as compared with 2,333 in 1934. On the other hand, the number of reports received from the other three main groups, viz., contractors and builders, Harbour Commissions, and provincial and Dominion departments, showed a net increase of 280 for 1935 compared with 1934.

Of the 1935 total value of work performed, \$140,988,228, or 65 p.c., represented entirely new construction, and the remainder was for alterations, repairs, maintenance, etc. Various forms of engineering construction amounted to \$118,764,000, or 55·1 p.c. of the total value of work performed, the principal items being: streets, highways, etc., \$61,872,000; and harbour and river works, \$19,073,000. Buildings accounted for only \$71,303,000, or 33·1 p.c. of the total construction work. Chief among the classes of build-

ings were: dwellings and apartments, \$18,522,000; government and municipal buildings, \$16,025,000; and industrial buildings such as factories, warehouses, farm and mine buildings, \$12,436,000.



Grading on Steep Hillside, Big Bend Columbia Highway, B.C.

Courtesy, National Parks Bureau, Department of Mines and Resources.

Statistics of the Construction Industry, by Provinces, 1935

Province or Group	Capital Invested	Persons Employed	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed
Province	\$	No.	\$	\$	\$
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba	266, 937 6, 102, 009 5, 603, 299 46, 962, 410 73, 657, 184 8, 885, 050	9,729 7,097 37,131 59,412 7,029	6,259,725 5,038,701 27,106,505 46,010,029 4,770,837	5,968,907 4,153,509 25,450,045 40,199,608 5,390,181	15,657,298 9,988,340 58,309,829 90,848,941 10,473,633
Saskatchewan Alberta British Columbia and Yukon Totals	3,640,943 4,588,993 8,765,091	6, 199 11, 980		4,658,509 6,101,064	13,836,126
	153,471,961	144,768	105,185,623	94,733,584	215,548,873
Group Contractors, builders, etc Municipalities. Harbour Commissions Provincial Government Depts. Dominion Government Depts.	121, 230, 026 14, 946, 414 2, 059, 561 11, 594, 939 8, 640, 976	63,349 25,565 1,671 29,911 24,272	58,977,344 14,188,133 1,263,625 20,097,600 10,659,921	75,342,622 5,202,516 638,755 8,855,173 3,694,518	19,635,554 1,966,576 32,032,120

Volume of Construction, 1937.—The recovery in construction, on the whole, has not paralleled that indicated in many other industries, although substantial improvement has been reported recently. According to the records of the construction contracts awarded, as maintained by MacLean Building Reports, Limited, the value of such contracts rose from \$160,305,000 in 1935 to \$162,588,000 in 1936, being higher than in any other year since 1931; the total for the first ten months of 1937 was \$198,576,800, or \$55,948,000 higher than in the same months of 1936. In spite of the improvement indicated, the recently-recorded aggregates have been considerably less than in pre-depression years. The following table shows the value of the various classes of structures for which contracts were awarded in the first ten months of 1936 and 1937.

Construction Contracts Awarded in Canada, Ten Months, 1936 and 1937

(MacLean Building Report	rts	. Ltd.)
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m 4.0 4 4	1	936	19	937
Type of Construction	No.	Value	No.	Value
		\$		\$
Apartments. Residences. Totals, Residential. Churches. Public garages. Hospitals. Hotels and clubs. Office buildings. Public buildings. Schools. Stores. Theatres. Warehouses. Totals, Business. Totals, Industrial Bridges. Dams and wharves. Sewers and watermains. Roads and streets. General engineering. Totals, Engineering.	150 11,855 11,805 209 595 67 7 326 281 392 341 164 4,442 613 166 104 172 636 434 4,512	3,341,300 33,387,100 36,728,466 2,370,700 2,487,900 1,824,100 1,778,500 5,706,500 3,880,600 2,049,500 4,167,500 33,168,806 13,551,700 6,714,200 1,847,400 2,278,168,500 2,278,500 2,278,500 27,101,238,500 27,101,906	15, 630 15, 918 277 716 100 347 413 513 423 1, 733 117 566 5, 205 877 173 103 121 529 492	5, 169,000 44,006,600 49,175,600 2,462,900 3,843,500 6,950,800 5,176,100 6,028,300 5,740,600 6,439,300 1,939,800 7,348,600 48,287,800 32,201,100 31,1257,600 69,092,300
Grand Totals	18,342	142,628,800	23,413	198,576,800

Monthly statistics showing the value of the building permits taken out in 58 cities have been compiled in the Dominion Bureau of Statistics since 1920. During 1936, the building authorized in these centres was estimated to cost \$41,325,693, as compared with \$46,560,623 in 1935. These totals considerably exceeded those for 1933 or 1934, and the 1935 figure was also larger than that for 1932, but throughout the past five years, the building authorizations have been decidedly smaller than in any other year for which data were available. The value of the building represented by the permits for construction taken out in the first ten months of 1937, however, was higher than in the same period in any other year since 1931. The following table shows the data for the 58 cities in the period, January to October of 1936 and 1937; these monthly figures are unrevised.

The population of these 58 centres constituted some 36 p.c. of the total population of the Dominion as enumerated in the Census of 1931; during the year 1936, their building authorizations amounted to little more than 25 p.c. of the total value of the construction contracts awarded throughout Canada. This ratio was decidedly lower than the average proportion in the years 1920-36, which was 40·3 p.c. In the first ten months of 1937, the proportion showed little change from that of 1936, standing at 23·7 p.c.

Building Permits, by Cities, Ten Months, 1936 and 1937

City	1936	1937	City	1936	1937
	\$	\$		\$	\$
Charlottetown, P.E.I.	155, 255	135,070		67,226	50,406
Halifax, N.S	949,601	1,264,856	Sarnia, Ont	113,254	
New Glasgow, N.S	26,318	82,770	Sault Ste. Marie, Ont	206,095	
Sydney, N.S	165,346	281,352		6,304,926	
Fredericton, N.B Moncton, N.B.	101,810	76,750			.,,
Saint John, N.B.	82,712	148,539		2,074,890	
Montreal-Maisonneuve	170,547	228,950		102,953	
P.Q.	5,576,660	0 504 015	Windsor, Ont	616, 213	
Quebec, P.Q.	772,010	6,534,015 804,765		27, 285	
Shawinigan Falls, P.Q.	112, 225	370,030		188,208	
Sherbrooke, P.Q	228, 350	724, 146		54,511	
Three Rivers, P.O	107, 122	285, 382		68,364	
Westmount, P.Q	308,578	500,583		1,320,500 44,048	
Belleville, Ont	83,865	140,395		327,591	
Brantford, Ont	129,709	246.427	Saskatoon, Sask	174, 205	
Chatham, Ont	125,980	181,750	Calgary, Alta	781,645	
Fort William, Ont	198,900	454,680	Edmonton, Alta	842, 170	
Galt, Ont.	129,411	260,787	Lethbridge, Alta	164,021	219,663
Guelph, Ont.	97, 495	126,757	Medicine Hat, Alta	25,085	
Hamilton, Ont	1,017,850	1,516,895	Kamloops, B.C	78,350	45,602
Kingston, Ont	226,798	319, 101	Nanaimo, B.C	115, 143	
London, Ont	401,468	828,663	New Westminster,		
Niagara Falls, Ont	615,090 131,893	812.020	B.C	334,515	
Oshawa, Ont	103,477	240,686	Prince Rupert, B.C	14,900	
Ottawa, Ont	1,683,257	193,075 1,969,488	Vancouver, B.C	4, 174, 845	6,037,250
Owen Sound, Ont	84.685	55,007	North Vancouver,	F4 65	
Peterborough, Ont	233, 801	220,118	B.C.	51,804	
Port Arthur, Ont	197,760	684,373	Victoria, B.C	415,574	474,755
Stratford, Ont	46,907	138, 437	Totals-58 Cities	22 772 840	42 497 990
t. Catharines, Ont	600,548	713, 087	Totals 55 Cities	33,553,743	47,135,398

The trend of employment in the construction industries was upward in 1937, according to data tabulated by the Dominion Bureau of Statistics from some 1,147 contractors, having an average of 117,748 employees. The index of employment calculated from these returns averaged 99·1 in the first eleven months of 1937, compared with 88·9 in 1936 (1926 = 100). In the building division of the construction industry, which depicts more accurately the work of this nature normally carried on in the cities, the average index of employment, at 58·7, was slightly higher than that of 55·7 recorded in 1936.

The wholesale prices of building materials during 1937 were higher than in any other of the past six or seven years, although they continued lower than in the years 1920-30. The index for such prices (1926 \equiv 100) averaged 94.5 in the first 11 months of 1937, compared with 85.1 in the same period of 1936. Wages in the building trades also have advanced to some extent, the preliminary wages index, as prepared in the Department of Labour, standing at 165.3 p.c. of the 1913 average, as compared with 160.8 in 1936.

CHAPTER XII

EXTERNAL TRADE OF CANADA—NON-COMMODITY EXCHANGES

External Trade*

For the fourth consecutive fiscal year Canada's foreign trade in 1936-37 achieved a substantial expansion over the preceding fiscal period and maintained a rate of recovery exceeding that of world international trade generally. In each month both imports and domestic exports were greater in value than in the corresponding month of the year before. For the full twelve months ended Mar. 31, 1937, imports and exports showed increases over 1935-36 of 19·4 p.c. and 25·0 p.c., respectively. Compared with the depression low reached in 1932-33, the value of trade in 1936-37 represented a gain of 65·3 p.c. for imports and 101·0 p.c. for exports.



Unloading Canadian Pulpwood at Rotterdam.

Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

Imports and exports in 1936-37 gained in quantity as well as value; the volume of imports was 15·8 p.c. over 1935-36 and of exports, 17·5 p.c. While the dollar value of the trade of Canada is still below the levels

^{*}In statistics of imports in this chapter, and particularly imports in 1935-36 and 1936-37, the excise duty which had been included in the value of distilled spirits, chiefly whisky, imported into Canada from countries entitled to the British Preferential Tariff since the fiscal year 1920-21, is excluded as from April 1, 1935. Imports in 1935-36 and 1936-37, particularly from the United Kingdom, are consequently lower than would otherwise be the case. Such imports from the United Kingdom'in 1936-37 were valued at \$5,680,584.

attained before the world economic crisis, examination of leading imports and exports reveals that, on a quantity basis, recovery has proceeded a great deal further.

Canada's	Imports	and l	Exports
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	Total		Excess:		
Fiscal Year	Imports	Canadian Produce	Foreign Produce	Total	Imports - Exports +
1913-14 1919-20 1924-25 1929-30 1930-31 1931-32 1932-33 1933-34 1933-35 1933-35	\$ 619, 193, 998 1, 064, 528, 123 796, 932, 537 1, 248, 273, 582 906, 612, 695 578, 503, 904 406, 383, 744 433, 798, 625 522, 431, 153 562, 719, 063 671, 875, 566	\$ 431,588,439 1,239,492,098 1,069,067,353 1,120,258,302 799,742,667 600,031,812 528,064,278 665,954,071 756,625,925 849,030,417 1,061,181,906	\$ 23,848,785 47,166,611 12,294,290 24,679,768 17,285,381 11,221,215 6,913,842 6,311,324 7,658,963 13,441,659 13,062,314	1,286,658,709 1,081,361,643 1,144,938,070 817,028,048 611,253,027 534,978,120 672,265,395 764,284,888 862,472,076	

It will be noted from the statistics in the table above that Canada has expanded sales abroad to a greater extent than purchases from other countries. In consequence, the balance of trade, which has been substantially in Canada's favour in recent years, became even more favourable in 1936-37, amounting to \$402,369,000. This large favourable balance of trade has been surpassed in only two fiscal years since Confederation, viz., 1917-18 when abnormal war conditions prevailed and in 1925-26.

Coincident with the expansion of import trade, the amount of duty collected increased from \$82,784,000 in 1935-36 to \$92,145,000 in 1936-37. Notwithstanding this increase in duty collected the average ad valorem rate (i.e., the amount of duty expressed as a percentage of the value of imports) declined from 14.7 p.c. on all imports in 1935-36 to 13.7 p.c. in 1936-37. On dutiable imports alone, the rate was 26.7 p.c. in 1935-36 and 24.9 p.c. in 1936-37. The proportion of imports which were free of duty was substantially the same in both years.

Trade of Canada Compared with World Trade.—World international trade continued a moderately upward progress in the calendar year 1936. Despite the absence of a marked or general disposition towards the relaxation of the policies of economic nationalism which have retarded trade in recent years, the continuance of internal recovery and exchange stability have made possible some slackening in Western Europe of the more rigid types of trade restriction. At the same time a number of Governments, including those of Canada and the United States of America, have pursued the objective of freer trade and lower tariffs which they are gradually realizing by means of trade agreements with countries sharing their outlook. Reduction in world stocks of primary commodities, and the consequent more normal readjustment of supply and demand, has resulted in increased trade. The successful localization of major political disturbances was also a favourable factor.

During 1936, Canada advanced in relative position among the leading trading nations as regards total trade, imports, and exports. The table below gives details respecting the relative position of the leading commercial countries of the world.



The Canadian Pavilion at the Paris Exposition, 1937.—The sculptural plaques depict the primary industries. *Inset*: Enlargement of the Canadian "Buffalo" which stands on guard.

Courtesy, Publicity Division, Department of Trade and Commerce.

Trade of Sixteen Leading Commercial Countries of the World, calendar year 1936

(Expressed in Canadian currency)

Note.—The figures in parentheses represent relative position in 1935.

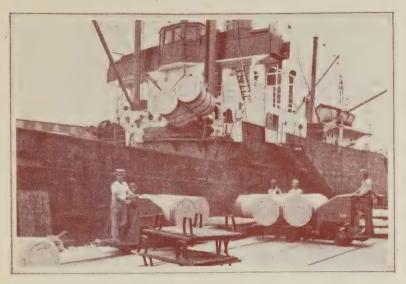
	Total	Trade	Net In	aports	Domestic Exports		
Country	Rank	Amount	Rank	Amount	Rank	Amount	
United Kingdom United States Germany France Canada Japan Belgium Netherlands British India Union of South Africa Australia Argentina Italy Sweden Brazil	1 (1) 2 (2) 3 (3) 4 (4) 5 (6) 6 (5) 7 (7) 8 (8) 9 (9) 10 (12) 11 (13) 12 (11) 13 (10) 14 (14) 15 (16) 16 (15)	\$'000,000 6,115 4,802 3,423 2,500 1,638 1,567 1,379 1,137 1,136 966 919 831 801 785 650	1 (1) 2 (2) 3 (3) 4 (4) 8 (9) 5 (5) 6 (8) 7 (7) 9 (10) 13 (15) 11 (13) 15 (12) 10 (6) 12 (14) 16 (16) 14 (11)	\$'000.000 3,923 2,385 1,701 1,554 623 800 711 656 459 414 428 370 435 415 366 383	2 (2) 1 (1) 3 (3) 5 (4) 4 (5) 6 (6) 8 (8) 12 (11) 7 (7) 9 (10) 11 (12) 10 (9) 14 (13) 15 (15) 13 (14) 19 (19)	\$'000,000 2,192 2,417 1,722 946 1,015 767 668 481 677 552 508 549 396 419 267	

In the production and export of many important commodities, Canada ranks high among the countries of the world. The Dominion is first in the production of asbestos, nickel and newsprint, supplying normally over half the world's asbestos, about 90 p.c. of the world's nickel, and more newsprint than the rest of the world combined. In the production of copper and zinc, Canada stood third in 1936. With respect to the latter, however, the comparison is based on metal output; on a mine output basis the comparison would be more favourable to Canada. In gold and lead production Canada was in fourth place in 1936, and fifth place in respect to output of automobiles. According to figures issued by the Automobile Manufacturers Association, New York, in "Automobile Facts and Figures", the total world output of automobiles in 1936 comprised 5,816,022 units, of which the United States furnished 4,454,115 units; the United Kingdom 481,447 units; Germany 297,512 units; France 201,737 units; and Canada 162,167 units. In wheat production Canada was in seventh position.

The Dominion led the world during 1936 in exports of wheat, newsprint paper, nickel and asbestos, and in exports of wheat flour occupied second place, being exceeded by Australia. Canada ranked third in exports of automobiles, and fourth both in exports of rubber tires and of wood pulp. Canada also ranks high in the world's exports of many other products, such as lumber and timber, fish, copper, barley, cheese, raw furs, whisky, meats, farm implements, cattle, gold, silver, rye, oats, rubber footwear, leather and hides.

Canada's Imports of Twenty-five Leading Commodities, fiscal year 1936-37 compared with 1935-36

	nk	Commodity	Total In 1936	aports,	Increase or 1936-37 compare	
	1936 -37		Quantity	Value	Quantity	Value
1 2 4 4 3 5 5 6 7 8 9 10 11 18 25 4 14 15 14 15 16 16 17 17	1 2 3 4 5 6 6 7 8 9 10 11 11 12 13 14 15 16 17 18 19 20 21	Crude petroleumgal. Coalton Machinery, except farm Automobile parts. Plates and sheets, iron. cwt. Raw cotton. Ib. Sugar for refining. cwt. Fresh fruits. Vegetable oils. gal. Books and printed matter. Electrical apparatus. Farm implements and machinery. Corn. bu. Automobiles. No. Rubber, crude. lib. Tealb. Engines and boilers. Furs Spirits and wines. Clay and products. Glass and glassware. Nols, tops and waste wool	1,249,391,532 13,353,762 - 7,241,834 147,836,584 10,210,123 - 20,731,508 - 18,632,448 13,307 62,546,059 40,620,874 - -	\$ 39,704,808	+ 51,275,057 + 943,921 - + 1,142,982 + 11,281,080 + 1,022,074 - 879,273	Value \$ + 4,139,830 + 1,019,765 + 9,172,627 + 4,672,774 + 4,192,695,906 + 1,569,518 + 2,984,213 + 621,386 + 2,447,386 + 3,233,201 + 4,621,532 + 5,592,693 + 7,105,274 + 3,574,107 + 1,194,661 + 422,984 + 2,186,472 - 297,847 + 1,150,511 + 1,784,193
20 32 22	23 24	Paper lb. Raw wool lb. Dried fruits lb.	14,007,083 -23,771,236 91,000,082	7,408,963 7,060,499 6,476,705 6,257,465	$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	+ 1,066,872 + 1,071,248 + 2,507,186 + 761,287



Unloading Canadian Newsprint at Havana, Cuba.

Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

Canada's Domestic Exports of Twenty-five Leading Commodities, fiscal year 1936-37 compared with 1935-36

Ra	ınk	Commodity (In order of value, 1936-37)	Total Do Exports,		Increase or Dec	
1935 -36		(in order or varue, 1350-51)	Quantity	Value	Quantity	Value
_				\$		\$
1 2 3	1 2 3	Wheatbu. Newsprint papercwt. Gold bullion, non-mone-	227,996,513 62,899,709			
4 6 8		taryoz. Nickelcwt. Planks and boardsM ft.	2,188,199 1,790,361 1,866,811		+ 181,109 + 484,097	+4,237,804
10 5 7	7 8 9	Meats	3,583,982 15,792,020 3,417,281	34,873,145	+597,816 +2,069,142	+11,175,353 $+5,106,267$ $+652,354$
12 11 9	10 11 12 13	Whisky pf. gal. Wheat flour brl. Automobiles No.	5,286,023 4,771,007 53,579	21,587,038	$ \begin{array}{rrr} & -87,940 \\ & -13,752 \end{array} $	+2,204,421
38 21 18	14 15 16	Raw furs. Barley	18,749,862 315,271 3,543,067	14,901,211 14,000,092 13,779,201	+ 11,430,478 + 167,479 + 602,711	+11,227,092 +6,639,913
15 24 20	17 18 19	Aluminium in barscwt. Cheesecwt. Asbestos, rawton	680,357 807,391 320,987	12,522,047 11,236,543 10,569,302	$\begin{array}{r} + 121,498 \\ + 221,942 \\ + 102,889 \end{array}$	+4,446,955 $+2,957,458$
17 23 28	20 21 22	Zinccwt. Pulpwoodcord Platinum and other metals		9,863,937 8,679,198		
22 27	23 24	of the platinum group in concentrates or other forms Rubber tires	1,269,624	8,185,250 7,712,980 7,607,472	+ 32,763	+ 2,898,990 + 494,783 + 1,803,547
14	25	Silver ore and bullionoz.				

Distribution of Canada's Trade by Countries.—The following statement on imports from twenty-five leading countries shows how predominant the two great English-speaking countries are as a source of supply of Canadian imports. The United States supplied approximately 59 p.c. of the Dominion's imports in 1936-37, while the United Kingdom, although having only about one-third the United States share in Canada's imports, had, nevertheless, more than ten times as large a share as Argentina, which fifteenth place in 1935-36 as a result, mainly, of a large increase in imports of corn. The countries shown account for about 97 p.c. of total imports 213·1 p.c. The countries shown account for about 97 p.c. of total imports in each year. The wide geographical distribution of the increase in imports in indicated by the number of plus signs in the last two columns of the table.

Canada's Imports from Twenty-five Leading Countries, fiscal year 1936-37 compared with 1935-36 and 1934-35

Rank			Country (In order of importance, 1936-37)	То	tal Impo	rts	Increase or Decrease 1936-37 compared with—		
34 35	1935 -36	1936 -37		1934-35	1935-36	1936-37	1934-35	1935-36	
				\$'000	\$'000	\$'000	p.c.	p.c.	
1	1	1	United States	303,640		394,419	+ 29.9	+ 23.	
2	2	2	United Kingdom	111,682	117,875	129,524		+ 9.	
6	15	3	Argentina	2,791	3,744	11,724		+213	
3	3 6	4 5	Germany British Straits Settlements	10,014	9,908	11,684		+ 17	
6	5	6	Australia	$2,970 \\ 6,327$	7,198 $7,277$	10,541 9,470		+ 46 + 30	
5	4	7	British India	6,415	7,458	8,326		+ 11	
2	8	8	Belgium	3,614	5.094	6,696		+31	
4	7	9	France	6,444	6.718	6.454		- 3	
8	17	10	New Zealand	2,535	3,622	5.377	$+112 \cdot 1$	+ 38	
1	11	11	Jamaica	4,305	4,313	5,173		+ 20	
9	10	12	British Guiana	2,449	4,758	5,051	+106.2	+ 6	
4	14	13	Peru	3,430	4, 171	4,958		+ 18	
9	18	14	Japan	4,425	3,466	4,797	+ 8.4	+ 18	
0	16 12	15 16	China.	2,346	3,717	4,275		+ 15	
8	13	17	Netherlands. Colombia.	4,344 4,564	4,258 4,202	4,252 4,197	$\begin{array}{c c} & 2 \cdot 1 \\ & 8 \cdot 1 \end{array}$	- 0 - 0	
23	21	18	Ceylon	2,093	2,918	3,962		+ 35	
7	19	19	Barbados.	4.861	3,430	3,711	-23.7	+ 8	
i o	20	20	British East Africa	1,330	3,225	2.829		 12	
9	22	21	Trinidad and Tobago	1.357	2,593	2,787		+ 7	
21	23	22	Switzerland	2,335	2,573	2,701	+ 15.7	+ 5	
4	28	23	Fiji Islands	1,800	1,770	2,395	+ 33.1	+ 35	
22	25	24	Czechoslovakia	2,310	1,970	2,365		+ 20	
6	24	25	Newfoundland	1,589	2,019	2,162	+ 36.1	+ 7	

The table on p. 116 shows Canada's domestic exports to twenty-five leading countries. The countries shown account for about 97 p.c. of total domestic exports in each year. The United States and United Kingdom rank first and second, respectively, as export markets, the United States being first in the latest three fiscal years, while the United Kingdom was first in 1933-34. Statistics of Canadian exports, by countries, should be read with the qualification that all the goods shown as exported to some countries may not finally be consumed in those countries, while, on the other hand, other countries may ultimately buy and use more Canadian goods than the Canadian export statistics indicate. For example, exports

to the United Kingdom are known to include large amounts of wheat and other grains shipped "on order". The final destination is not known at the time of exportation from Canada. Similarly, considerable quantities of Canadian exports are consigned to one or other of the great European free ports and thence transhipped to the country of consumption. Since the country of final destination in these cases is not known at the time when the goods leave Canada, even to the owners, exports to such countries as the United Kingdom, Belgium, Netherlands, etc., which carry on a large entrepôt trade, are higher than would be the case if the exports in question were credited to the countries of final consumption. Exports to other countries such as Norway, Switzerland, Czechoslovakia, etc., which obtain Canadian goods indirectly, would be correspondingly higher than the Canadian export statistics indicate. The figures of the table show a marked expansion of Canada's exports to all the leading countries during the two latest years. The percentage increases are particularly large in the cases of Belgium, New Zealand, and Germany.



Unloading Canadian Aluminium from a Lighter in Osaka, Japan.

Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

Canada's Domestic Exports to Twenty-five Leading Countries, fiscal year 1936-37 compared with 1935-36 and 1934-35

	Rank 1934 1935 1936		Country (In order of importance, 1936-37)	Total D	omestic :	Exports	Increase or Decrease 1936-37 ompared with—		
-35	-36	-37		1934-35	1935-36	1936-37	1934-35	1935-36	
				\$'000	\$'000	\$'000	p.c.	p.c.	
1 2 3 6 4 4 5 8 9 7 7 12 10 11 11 13 17 19 14 14 15 24 25 21 20 21 21 21 21 21 21 21 21 21 21 21 21 21	1 2 3 6 4 4 5 9 7 7 8 12 10 11 13 19 15 18 14 16 21 17 43 20 22 2 27	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 12 21 22 22 23 24 24 25 25 26 26 27 27 27 28 27 28 28 28 28 28 28 28 28 28 28 28 28 28	United States United Kingdom Australia Belgium Japan British South Africa France New Zealand Netherlands Germany Newfoundland Norway Ltaly Brazil Irish Free State Argentina Jamaica Sweden British India Greece Trinidad and Tobago Mexico Morocco British Straits Settlements	1,885 66	14,844	407, 997 26, 954 23, 436 21, 630 21, 630 15, 574 11, 718 11, 187 10, 916 7, 728 6, 907 4, 899 4, 656 3, 873 3, 800 3, 727 3, 227 3, 221 3, 082 3, 823 3, 054 2, 854	+ 28.4 + 19.1 + 52.3 + 8.4 + 75.0 + 19.5 + 44.2 + 9.8 + 28.2 + 39.8 - 7.8 - 7.1 + 7.7	+ 26.9 + 12.4 + 111.9 + 45.7 + 15.3 + 9.5 + 15.6 + 71.7 + 12.0 + 70.7 + 12.0 + 20.7 + 25.0 + 41.0 + 2.8 + 41.0 + 61.6 + 6	

Canada's Trade with British Empire and Foreign Countries, fiscal years 1926-27 to 1936-37

			Canada's T	Trade with—		
Fiscal Year	United Kingdom	United States	Other British Empire	Other Foreign Countries	Total British Empire	Total Foreign Countries
	\$	\$ `	\$	\$	\$	\$
Imports—	186, 435, 824 194, 041, 381 189, 179, 738 149, 497, 392 106, 371, 779 86, 466, 055 105, 100, 764 111, 682, 490	351,686,775 232,548,055	41,440,214 33,918,269 35,303,122 44,503,981 59,846,488	148, 156, 943 117, 307, 251 79, 005, 136 53, 451, 365 55, 207, 058 62, 604, 710	257, 388, 210 252, 674, 602 204, 898, 426 147, 811, 993 120, 384, 324 140, 403, 886 156, 186, 471	859, 395, 900 1,008,290,881 995, 598, 980 701,714, 269 430, 691, 911 285, 999, 420 293, 394, 739 366, 244, 682 384, 997, 753
Exports (Canadian)— 1926-27. 1927-28. 1928-29. 1929-30. 1930-31. 1931-32. 1932-33. 1933-34. 1934-35. 1935-36. 1936-37.	446, 872, 851 410, 691, 392 429, 730, 485 281, 745, 965 219, 246, 499 174, 043, 725 184, 361, 019 288, 582, 666 290, 885, 237 321, 556, 798 407, 996, 698	515, 049, 763 349, 660, 563 257, 770, 160 197, 424, 723 220, 072, 810 304, 721, 354 360, 302, 426	88, 284, 515 106, 258, 803 97, 825, 173 73, 617, 897 46, 016, 686 37, 757, 908 50, 423, 723 67, 314, 241 77, 754, 681	251,228,053 328,108,239 225,637,401 157,217,708 122,201,241 108,520,628 106,874,872 93,705,093 89,416,512	498,975,907 535,989,288 379,571,138 292,864,396 220,060,411 222,118,927 339,006,389 358,199,478 399,311,479	740,687,164 506,878,271 379,971,401 305,945,351 326,947,682 398,426,447 449,718,938

REVIEW OF CANADA'S TRADE BY MONTHS

The monthly trade figures as available when going to press for the calendar year 1937 compared with the years 1934, 1935 and, 1936, were as follows:—

Imports and Exports by Months, January, 1934, to October, 1937

		Impo	rts		Exports of Canadian Produce				
Month	1934	1935	1936	1937	1934	1935	1936	1937	
January. February March. April May June July August September October November December	\$'000 32,391 33,592 47,519 34,814 52,887 46,186 44,145 43,507 42,208 47,229 49,884 39,107	\$'000 37,229 37,044 48,191 36,637 54,540 46,732 48,414 49,560 44,689 52,751 55,958 38,569	\$'000 40,590 41,597 52,681 42,217 59,121 57,598 53,821 50,258 52,983 65,159 66,169 52,996	\$'000 51,883 48,681 70,990 56,886 76,707 75,669 71,996 69,966 70,240 82,113	\$'000 55,650 52,396 69,611 38,282 66,802 64,398 65,329 63,566 77,259 72,579 67,948	\$'000 54,737 53,489 67,420 47,314 65,498 58,505 63,286 75,676 77,259 90,526 94,484 77,099	\$'000 63,865 62,074 73,445 57,424 83,820 79,181 83,899 92,559 88,894 110,999 120,971 98,074	\$'000 82,242 74,792 88,327 65,517 99,497 107,478 99,158 101,471 94,152	

Non-Commodity Items of Foreign Exchange

A nation's commodity trade alone cannot be taken as a complete index of its prosperity, for there are many other exchanges besides those of goods, all of which must be taken into account in order to find out the basic state of affairs in regard to total international transactions.

The Tourist Trade.—An item in the above which deserves special mention is the tourist trade. For the year 1936 the tourist trade was calculated to have brought \$255,763,000 into the country, and after the deduction of \$99,805,000 spent by Canadian tourists abroad, the favourable balance was estimated at \$155,958,000. By far the most important factor is the automobile traffic between Canada and the United States, it being estimated that such United States tourists spent \$159,473,000 in Canada in 1936, while Canadian automobile tourists spent about \$43,811,000 in the United States. Tourist expenditures are, in part, the return which Canada derives from her picturesque scenery, fish and game, winter sports, etc.

Tourist Expenditures, 1929-36

Year	Expenditures of Outside Tourists in Canada (1)	Expenditures of Canadian Tourists in Other Countries (2)	Excess of (1) over (2)
	\$	\$	8
1929 1930 1931 1931 1932 1933 1933 1935 1936	309, 379, 000 279, 238, 000 250, 776, 000 212, 448, 000¹ 117, 124, 000¹ 145, 974, 000 214, 778, 000 255, 763, 000		187,734,000 178,849,000 174,324,000 155,045,000 66,264,000 82,316,000 123,178,000 155,958,000

¹ Canadian funds. No adjustment for exchange was considered necessary in subsequent years.



Campers at Waskesiu Lake, Prince Albert National Park, Sask.—Each province of the Dominion offers to tourists ideal, though characteristically different, conditions for outdoor life.

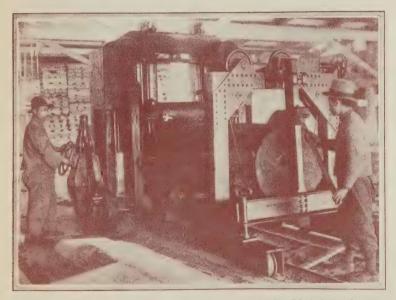
Courtesy, Canadian National Railways.

Apart from the revenue which Canada derives directly from the tourist trade there are many other important results. First-hand knowledge of the country, its products and resources, serves to stimulate the demand for Canadian products and increases the supplies of new capital for investment here. There is, too, a value derived from neighbours becoming better acquainted and through the exchange of ideas that cannot be measured in dollars and cents. A more widely diffused knowledge of the culture, interests and difficulties of other nations leads to a richer social and intellectual life for all and the mutual understanding which springs from such contacts is an invaluable source of international good will.

The Canadian Balance of International Payments.—Canada's trade with other countries is not limited to the exchange of merchandise. There are also the exchanges of numerous services, such as the tourist trade, as well as the movements of capital between Canada and other countries and the transactions connected with the servicing of international investments. It is by means of the annual investigation of the balance of international payments that it is possible to discover the principal characteristics of these transactions between Canada and the rest of the world.

In 1936 Canada's transactions with other countries were particularly impressive. There was an unusually large credit balance from the trade in goods, gold, and services with other countries. That is, the receipts from

exports of merchandise, the sale of gold, and the tourist trade were much more than sufficient to make payment of such current obligations as interest and dividends to investors residing outside of Canada. These surplus credits derived from the export of goods and services were employed for the transfer of capital from Canada, for it is by means of exchange of goods and services that capital is transferred between nations. The large outflow of capital from Canada during 1936 was principally for the retirement of indebtedness abroad and for the transfer of capital funds from Canada in connection with the operations of insurance companies, international "branch plants", etc. The volume of the retirements of Canadian bonds owned outside of Canada was very heavy. In addition to the substantial amount of these obligations maturing during the year, there were a large number of issues called for redemption by Canadian corporations, which took advantage of the favourable conditions to reduce their obligations outside of Canada.



Douglas Fir Logs being Sawn with Chinese-Made Six-Bladed Bandsaw at Tientsin, North China.

Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

To see how these results were achieved and to appreciate their magnitude, it is necessary to inspect the transactions in more detail. This may be done conveniently by presenting these facts in the form described as the balance of payments statement. The current account shows the source of Canada's surplus receipts or credits from the trade in goods, gold, and services and the capital account shows the principal movements of capital between Canada and other countries during 1936. If the estimates of the values of the transactions in the current account were exactly accurate and if there were no omissions, the net credits shown there would exactly

represent the net outward movement of capital from Canada during the year. But such perfect accuracy, of course, is unattainable in practice owing to the magnitude and complex nature of the transactions.

Estimated Balance of International Payments, 19351 and 1936

	19	351	19	936
Item ·	Gross Value of Trans- actions	Net Receipts (+) Net Payments (-)	Gross Value of Trans- actions	Net Receipts (+) Net Payments (-)
Exchanges of Commodities, Services and Gold Merchandise sold to other countries	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Merchandise bought from other countries Gold sold to other countries	735 · 6 542 · 9 116 · 7	+192.7 +116.7	$947 \cdot 9$ $625 \cdot 7$ $132 \cdot 0$	+322·2 +131·0
Gold received from other countries Expenditures in Canada of tourists from abroad Expenditures of Canadian tourists abroad	214·8 91·6	$\left.\right\}$ $+123\cdot2$	$ \begin{array}{r} 1 \cdot 0 \\ 255 \cdot 8 \\ 99 \cdot 8 \end{array} $	+156.0
Interest and dividends received from abroad Interest and dividends paid abroad Receipts from abroad for freight transportation	$62 \cdot 0 \\ 270 \cdot 6 \\ 68 \cdot 2$	$\left.\begin{array}{cccccccccccccccccccccccccccccccccccc$	76·2 310·0 80·2	-233.8 -17.8
Payments abroad for freight transportation Receipts for other trade and service transactions	82·3 20·1)	98·0 21·7)
Payments for other trade and service transactions.	49.1	-29.0	55.7	34.0
Net Receipts (Credits)		+180 · 9		+323.6
Capital Movements Sales of new issues of Canadian securities abroad Retirements of Canadian securities owned	113 · 1	+113·1	106·1	+106.1
abroad	267.5	-267.5	270.0	−270·0
abroad. Payments for the purchase of other securities abroad.	301·8 230·8	+ 71.0	422·5 414·7	+ 7.8
Remittances to insurance companies in Canada Remittances abroad by insurance companies in Canada	20·0 38·0	- 18.0	19·0 45·0	- 26.0
Decline in estimated net assets abroad of Canadian banks. Other capital movements—net payments	0.1	+ 0.1	2.6	+ 2.6
in operations of international branch plants, etc.	52.2	- 52.2	74.2	- 74.2
Net Outward Movement (Net Payments)	-	-153.5	-	-253.7

¹Revised figures.

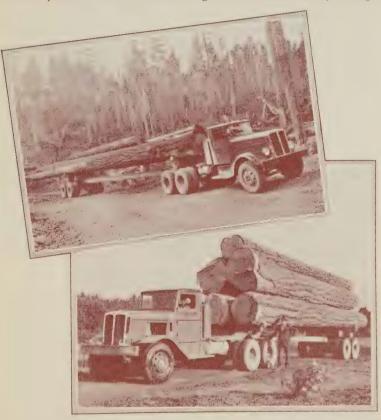


The Port of Montreal.

CHAPTER XIII

INTERNAL TRADE—WHOLESALE AND RETAIL TRADE —FREIGHT MOVEMENTS—SECURITY PRICES— COMMODITY PRICES—COST OF LIVING

Internal trade in Canada is of primary importance among economic activities. The home consumption of goods and services by a population of 11,120,000 requires a greater expenditure of economic activity than that required for the prosecution of external trade. Internal trade includes the transportation and distribution of goods within the country through



Large-Dimension Logs from the Forests of British Columbia being Conveyed to the Sawmill for Conversion into Lumber.

Courtesy, Hayes Manufacturing Company Limited, Vancouver.

the medium of railways, steamships, warehouses, wholesale and retail stores and other agencies. It includes all professional services such as those carried on by doctors, theatres, hospitals, schools, banks, insurance companies and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income.

Historically, Canadian internal trade developed as a result of the fur trade, fur being the first great staple sought in Canada by Europeans in exchange for their products. This trade spread until it covered the whole area of the Dominion, forming the framework into which the economic activities of the nation were gradually built. Lumber, fisheries, agricultural, mineral and other resources were gradually exploited. As population grew, local manufacturing industries supplanted certain imports. Diverse resources in various parts of the country led to a vast exchange of products and growing wealth to increasing abundance of services.

Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless, some idea of its extent may be gathered from the fact that in 1935 the grand total value of the activities of those occupied in production of all kinds, as estimated under the heading National Income on p. 25, was \$3,831,553,000, while the money value of exports of Canadian produce was \$825,284,114.

The sections which follow deal with those features of internal trade which have not received treatment elsewhere in this handbook.

Wholesale and Retail Trade

Wholesale Trade.—The supplying of goods for the retail trade requires a complex organization, made up of many types of wholesale establishments. The 1931 census of wholesale business showed that there were more than 5,000 wholesale houses in Canada with sales amounting to slightly more than one billion dollars and 8,000 other types of wholesalers handling sales and orders to the value of two billion dollars. The capital invested in both types of wholesale establishments was valued at \$759,000,000. Ninety thousand persons found employment in wholesale establishments and their earnings totalled \$146,000,000.

Indexes of Sales of Retail and Wholesale Establishments, by Provinces, 1930 and 1933-36

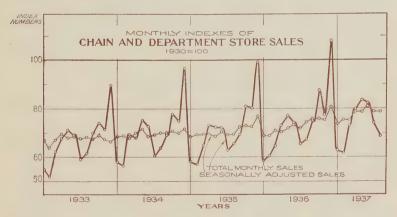
Province		Re	tail Sto	res		W	Wholesale Establishments ¹				
	1930	1933	1934	1935	1936	1930	1933	1934	1935	1936	
Prince Edward Is Nova Scotia New Brunswick	100·0 100·0 100·0	64·7 69·2 62·1	70·3 77·2 69·1	71·9 81·6 73·1	82·5 87·5 79·4	100.0	67.9	77-0	80.3	88-0	
Quebec	100.0	64.9	69.0	71.3	76.5	100.0	65.9	74.7	77.7	84 - 7	
Ontario	100.0	67.4	74.9	78.0	83 · 0	100.0	68.9	79.4	83.3	91.5	
Manitoba Saskatchewan. Alberta	100·0 100·0 100·0	64·5 54·5 61·8	69·4 59·4 69·0	73·4 63·2 73·3	78·5 69·0 77·3	100.0	60-6	67-7	73 · 4	79 · 8	
British Columbia	100.0	62.6	69 · 6	75.8	83 · 6	100.0	63 · 5	71.6	77.7	84 - 9	
Yukon and N.W.T.	100-0	54.9	64.9	68.3	61.2	-	-	-	_	_	
Canada	100.0	64.8	71.1	74.5	79.9	100.0	65.7	74.7	78 - 9	86 - 2	

¹ Regular wholesale houses. For a full description of the index, see the report "Wholesale Trade in Canada, 1930-1933", obtainable from the Dominion Statistician.

Retail Trade.—The distribution of goods and services, to meet the demands of consumers, requires many types of establishments which employ

hundreds of thousands of persons and use many millions of dollars of capital. The 1931 Census of Merchandising and Service Establishments showed that in 1930 there were 125,000 retail stores in Canada with sales amounting to \$2,756,000,000. Including proprietors receiving a fixed salary, there were about 300,000 persons on the payrolls of these stores and approximately \$300,000,000 paid out to them in salaries and wages during the year. The capital invested in these retail stores amounted to \$1,200,000,000.

Current Trend.—The trend in sales of retail stores and regular whole-sale houses, by provinces, for the years 1930 and 1933 to 1936 is shown above. No allowances have been made in the indexes for changes in retail and wholesale prices during the period. While the decline in retail trade from 1930 to 1933 was 35·2 p.c. (34·3 p.c. in wholesale trade), some kinds of business had much heavier losses than others. How much of the decrease was due to the decline in prices and how much to a reduction in physical volume of trade, it is not possible to say. Reports on retail and wholesale trade for recent years show that the improvement which commenced in 1934 was continued throughout 1935 and 1936, the dollar value of retail sales for the latter year being more than 23 p.c. above 1933 although still 20 p.c. below the 1930 level. Monthly indexes based on returns from chain and department stores are illustrated below. These reveal a further improvement of 8 p.c. for the first eight months of 1937 compared with the corresponding period in 1936.



Chain Stores.—In recent years, great changes have taken place in the distribution of goods, the chain store now doing a large proportion of the work of retailing merchandise. The survey of chain stores, made in connection with the Census of Merchandising, shows that chain stores (other than department store chains) do about 18 p.c. of the total retail business of the Dominion. This ratio has remained relatively constant since 1930, the first year for which such data are available. The proportion of the total business transacted by chains varies widely in different lines of trade. The modern variety store is a typical chain store development, practically the entire business of such stores being transacted by chains. The multi-

unit type of distribution is also important in the food retailing field where chains accounted for 28.9 p.c. of the combined business of all grocery stores and meat markets in 1936. The trend in chain store business in Canada from 1931 to 1936 is shown below.

Summary Statistics of Chain Stores, 1931-36

	Number	Number	Value of Cl	nain Sales
Calendar Year	of Chains	Chain Stores	Amount	P.C. of Total Sales
			\$	
1931	506 486	8,557 8,398	434,199,700 360,806,200	18·7 18·8
1933. 1934. 1935.	461 445 445	8,230 8,210 8,024	328,902,600 347,186,100 364,589,800	18·5 17·9
1936	457	8,124	394, 935, 000	17.9

Retail Services.—More than 40,000 establishments are engaged in supplying services of various kinds to the Canadian public. The provision of amusements and domestic and personal services forms the chief business of the service groups. In 1930, \$249,000,000 was spent by consumers in such establishments; employment was provided for 64,000 persons.

Motion Picture Theatres.—The motion picture continues as the most popular form of amusement in Canada. Figures for the year 1936 show 959 motion picture theatres with a total of 127,241,600 paid admissions. Box office receipts for the same year (exclusive of amusement taxes) were \$29,560,000 or 8 p.c. greater than for 1935. They were 19 p.c. above the low point reached in 1933 but were still 23 p.c. below the amount recorded for 1930.

Internal Freight Movement

The subject of interprovincial trade is of interest to many persons, but comprehensive data are even more difficult to record than those of international trade. There are practically no restrictions to all kinds of movements across the provincial borders and consequently the records of movements of commodities, people, money, etc., are very incomplete.

The railways are required to record the tons of revenue freight, under 76 commodity classes, loaded and unloaded and received from and delivered to foreign railways and boat lines for each province. The excess of loadings in any province over unloadings shows a net movement out of that province, but does not reveal the place to which such excess was shipped and, similarly, the excess of unloadings over loadings indicates a net import into the province. For the Prairie Provinces, where only a small proportion of the freight is moved by other agencies than the railways, the net movements into and out of the provinces indicate fairly accurately net imports and exports, but in the eastern provinces where vessels and motor vehicles are more important factors in transportation only a part of the story is told by these railway data. No records are yet available of the movements of commodities, people, etc., by vessel or motor vehicle from province to province.

Security Prices

Security Prices Since 1913.—The Bureau of Statistics publishes several series of index numbers, designed to measure the movement of security prices in general and of important groups of stocks in particular, and which constitute an important barometer of business conditions. The table below shows the course of the Investors' index number for representative months in the years from 1935 to 1937, inclusive. A table of the index numbers of mining stocks by months during the years 1934-37 is also given.

The record of Canadian common stock prices, extending back to 1914, is quite different from that of commodity prices. During the War and in the years immediately following, the average level of commodity prices advanced to nearly two and one-half times its height in 1914, while common stock prices averaged less than two-thirds of 1914 levels during this period. Again, during the years 1927 to 1929, the behaviour of these two price groups was very different. This time stock prices increased by approximately 100 p.c., while commodity prices drifted slowly downward. Both commodities and stocks declined subsequent to the latter part of 1929, and since the spring months of 1933 they have both moved irregularly upward.

From the extreme high of 217·1 registered in September, 1929, a general index of common stock prices dropped sharply at first, and then more gradually, until it reached 43·2 in June, 1932. Temporary recovery was followed by a secondary decline lasting until March, 1933, when the index was 48·9. Subsequent intermittent recovery carried this series upward to 147·2 in March, 1937, before any major reaction occurred. Since then, however, markets have recorded major losses, particularly in April and September. In the latter month, the Investors' price index was 118·9.

Investors' Monthly Index Numbers of Common Stocks, 1935-37

(50-	0 - 100)				
Year and Month	Banks	Utilities	Industrials	То	tal
1935 (representative months)— January. March. June. September. December.	$80 \cdot 1$ $76 \cdot 8$ $72 \cdot 0$ $65 \cdot 9$ $75 \cdot 1$	50·4 45·1 45·0 46·3 50·1	129·7 125·6 145·2 147·1 178·2		88 · 6 84 · 4 93 · 8 93 · 6 107 · 4
1936 (representative months)— January. March. June. September. December.	79.6	52·4 55·5 53·3 54·8 62·8	187·7 194·8 189·3 200·6 212·8	*	112 · 9 117 · 4 113 · 8 119 · 8 129 · 2
1937 (representative months)— January. March June. September.	95.9	$ \begin{array}{c} 68.5 \\ 71.0 \\ 63.2 \\ 57.4 \end{array} $	222·0 241·7 210·1 193·3		137 · 4 147 · 2 129 · 4 118 · 9

The post-war peak in mining share prices was reached in October, 1927, two years prior to the highest levels in utilities and industrial stocks. At that time a price index for mining issues touched 143.8, considering

prices in 1926 as equal to 100·0. It then declined irregularly to an all-time low of 46·8 during June, 1932. From that time until February, 1937, the general trend of mining stock prices was decidedly upward, although the advance was interrupted by a long period of gradual reaction beginning in the final quarter of 1934 and extending through the greater part of 1935. At the crest of the rise in February, 1937, the mining stock index was 177·2. This was followed by sharp recessions in the spring and early autumn, with the September index having fallen to the level of 127·6.

Index Numbers of Twenty-four Mining Stocks, by Months, 1934-37

Month	1934	1935	1936	1937	Month	1934	1935	1936	1937
January February March April May June	108·9 114·4 128·1 137·2 129·8 138·5	124·3 124·2 128·2 128·7 128·3 123·0	142·4 149·8 144·2 145·8 150·3 156·1	174 · 6 177 · 2 172 · 6 154 · 1 142 · 1 134 · 7	July. August. September. October. November. December.	137·2 141·1 139·2 133·5 125·5 124·9	117·9 115·6 119·1 118·6 125·5 133·6	157·6 158·1 157·6 158·2 167·0 167·7	141·8 146·2 127·6 121·6 129·4

Prices of Commodities

There have been three distinct periods in price history since the beginning of the Great War. During the first, a rapid rise and subsequent reaction occurred when the Canadian wholesale price index advanced from $64 \cdot 0$ to $155 \cdot 9$ between 1913 and 1920, and then declined to $97 \cdot 3$ for 1922. It remained close to this level (approximately 50 p.c. above price averages for 1913) until near the end of 1929. This seven-year stretch of comparative stability constituted the second period. During the final period, a decline carried the wholesale index downward from $95 \cdot 6$ for 1929 to $66 \cdot 7$ for 1932, after which a gradual recovery advanced it to $72 \cdot 1$ for 1935. Price levels at that time exhibited a tendency to stabilize at somewhat more than 10 p.c. above pre-war levels, but a secondary advance much more impressive than the first raised the wholesale price level sharply in the latter half of 1936, and still higher in 1937. The October, 1937, index number of wholesale commodity prices was $84 \cdot 7$.

Index Numbers of Wholesale Prices, 1913-361 and by Months, 1937

(1926 = 100)

913	64.0	1925	102·6 1937— January	81
014	65·5 70·4	1927	100·0 February	85
916	84·3 114·3	1928 1929	96·4 April	86 85
918	$\begin{array}{c} 127 \cdot 4 \\ 134 \cdot 0 \end{array}$	1930 1931	86.6 June	84
020 021	$155 \cdot 9 \\ 110 \cdot 0$	1932 1933	66·7 August	85 85
22	97·3 98·0	1934 1935	71.6 October	
24	99.4	1936	74.6 December	

¹ 236 commodities to 1926; 502 from 1926 to 1934; subsequently 567.

Cost of Living

Statistics of cost of living constitute a very important phase of price statistics. Index numbers of retail prices, rents and costs of services issued by the Bureau of Statistics are constructed from a general point of view, having for their object the measurement of the general movement of such prices and costs in the Dominion as a whole, and being so calculated as to make comparisons possible with other general index numbers constructed on similar principles, as, for example, the index of wholesale prices. Calculated as they are on the aggregative principle, i.e., the total consumption of each commodity, the Bureau's index numbers afford an excellent measurement of changes in the average cost of living in the Dominion as distinguished from that of any particular class or section.

Index Numbers of Retail Prices, Rents and Costs of Services, 1930-36, and by Months, 1937¹

(Average prices in 1926 = 100)

Year	Total Index	Food Index	Fuel Index	Rent Index	Cloth- ing Index	Sun- dries Index
1930 1931 1932 1933 1934 1934 1935 1936	99·2 89·6 81·3 77·5 78·6 79·1 80·8	98.6 77.3 64.3 63.7 69.4 70.4 73.4	95·7 94·2 91·4 87·7 87·7 86·8 86·4	105·9 103·0 94·7 85·1 80·1 81·3 83·7	93·9 82·2 72·3 67·1 69·7 69·9 70·5	99.4 $ 97.4 $ $ 94.6 $ $ 92.6 $ $ 92.1 $ $ 92.2 $ $ 92.9$
1937—1 January February March April May June July August September October November	81·8 81·9 82·2 82·4 82·9 83·2 83·8 83·7 84·2 84·2	75·2 75·6 75·7 76·3 76·4 77·2 79·1 78·3 78·9 78·8	86·3 86·4 86·4 86·4 85·9 84·0 83·8 84·4 84·5 85·3	84.9 84.9 84.9 87.3 87.3 87.3 87.3 87.3 87.3	71.6 71.6 72.6 72.6 72.9 72.9 72.9 73.3 73.3	93·0 93·1 93·3 93·3 93·4 93·8 93·8 94·0 94·0

¹ Preliminary figures.

The general movements in living costs since pre-war days have been similar to those already outlined for wholesale commodity prices. From 65·4 in 1913, the Bureau's cost of living index mounted to 124·2 in 1920, and then declined sharply to 100·0 in 1922. There was little change of importance from that time until 1930, when the index was 99·2. In the next three years, however, it followed the lead of primary markets and declined to 77·5. The subsequent rise has been more gradual as indicated by the 1936 average of 80·8, and the November, 1937, figure of 84·2.

CHAPTER XIV

TRANSPORTATION AND COMMUNICATIONS

Steam Railways.—There are 35 railways in Canada with 42,552 miles of first main track. The Canadian National System with 21,556 miles of road and the Canadian Pacific with 16,756 miles constitute over 90 p.c. of the total. These two railways jointly own the Northern Alberta, with 923 miles of road, and the Toronto Terminals with 3·19 miles. The Canadian National operates the Hudson Bay Railway, with 510 miles of road, for the Dominion Government and owns the Central Vermont with 25 miles of road and the Thousand Islands Railway with 4·5 miles. United States railways operating in Canada account for 887 miles and, of the remaining 1,888 miles, the provincially-owned roads, the Temiskaming and Northern Ontario and Nipissing Central in Ontario with 574·43 miles, the Pacific Great Eastern with 347·8 miles in British Columbia and the

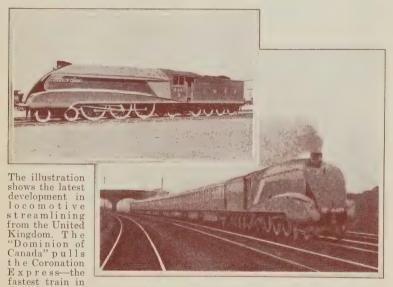


Transportation Within the Arctic Circle.—Travelling over flooded sea ice in the late spring in the Coronation Gulf area. *Inset:* Fleet of Eskimo schooners at Herschel Island.

Courtesy, Lands, Parks and Forests Branch, Department of Mines and Resources.

Greater Winnipeg Water District with 92.0 miles, owned by the city of Winnipeg, account for over half. Thus 23,573 miles, or 55 p.c. of the total miles of railway in Canada, are publicly owned; the greater part of this mileage was taken over by the Dominion and Provincial Governments because of the inability of the companies to continue operations.

The Railway Commission, organized in 1904 to supersede the Railway Committee of the Privy Council, has jurisdiction over all freight, passenger, and other railway rates, except certain rates on grain in the Prairie Provinces which are fixed by statute. The Commission also has jurisdiction over safety features of railway operation, the train service, and the abandonment of services and track and other relevant railway activities.



the Empire—and was the first of a series of five engines to be completed. On the first passenger run of the locomotive between London and York, the Prime Minister of Canada, the Rt. Hon. W. L. Mackenzie King, was on the train. A characteristic feature is the deep resonant "whoo-ooo-oo" as contrasted with the tiny toots of most English engines. The special whistle fitted to this locomotive is a compliment to Canada and was presented to the L.N.E.R. by the C.P.R.

Courtesy, Canadian Official News Bureau, London, England,

and Canadian National Railways.

Australia has a slightly greater railway mileage per capita than Canada. but Canada's average is higher than any other country and is about twice that of the United States. Both freight and passenger traffic, however, are considerably lighter than in the United States, the average ton miles per mile of road being only 43 p.c. and passenger miles per mile of road being 42 p.c. of the respective United States averages.

Freight traffic reached a low point in 1933 but showed increases in the following three years amounting to 75,846,566 tons and 26,414,000,000 ton miles in 1936, as against 69,141,100 tons and 24,235,000,000 ton miles in

1935. Passenger traffic has shown a long, almost continuous decline since 1920, when over 51,000,000 passengers were carried, to a low point of 19,000,000 in 1933. The revival in 1934, 1935, and 1936 has been very slight, the total for 1936 being 20,497,616 passengers.

Revenues declined with the traffic, reaching a low point in 1933. but they have been increasing during the past three years and at \$334,768,557 in 1936 they were above 1932 and were about 6 p.c. below the 1931 revenues.

The railways employed 187,846 persons in 1929 and paid \$290,732,500 in wages, but by 1933 the number of employees was reduced by 35 p.c. and the payroll was reduced by 46 p.c. Increased work and increases in rates of pay have brought the number of employees up to 132,781 for 1936 and the payroll to \$182,638,365.

The table below shows gross revenues and the number of cars of revenue freight loaded, month by month, for 1935 to the latest month in 1937 for which data are available and indicates recent recovery.

Railway Statistics, by Months, 1935-37

Month ·		ailway Gross ating Reven		Total Revenue Car Loadings		
Honor	1935	1936	1937	1935	1936	1937
	\$'000	\$,000	\$'000	No. No. '000 '000		No. 1000
enuary	20, 968 21, 601 23, 868 24, 492 24, 537 24, 063 26, 186 25, 552 29, 585 32, 279 27, 154 26, 656	22, 234 22, 597 25, 535 26, 050 27, 022 26, 049 27, 301 28, 637 33, 103 33, 840 29, 034 30, 108	25,140 24,710 28,691 29,458 29,257 23,253 29,405 29,211 32,882	182 180 187 185 188 186 195 197 221 251 214	173 180 192 193 190 201 203 222 251 263 220 206	192 186 214 208 209 214 219 231 262 260 235

Electric Railways.—The first street railways in Canada were horsedrawn cars in Montreal and Toronto in 1861 and, with the advent of the electric motor, electric cars were substituted. St. Catharines is credited with the first electric street railway system operated in Canada. This was 7 miles in length and was opened in 1887. Vancouver followed in 1890, Ottawa in 1891, and Toronto and Montreal in 1892. They provide cheap mass transportation in cities and early in the present century extensions to summer resorts and neighbouring cities and towns were operated. The changing habits of the people with the extensive use of automobiles have caused most of the interurban and rural lines to cease operation and, since 1920, 26 railways have ceased to operate and several other systems have curtailed their rural services. Motor buses are providing the public services and private automobiles carry an enormous traffic. Despite the increase in urban population, the electric railway traffic which is largely urban decreased from 1920 to 1925. It increased from 1925 to 1929 and decreased again to 1933. For the past three years a revival has been experienced and the number of passengers increased

from 585,385.094 in 1933 to 614.890,897 in 1936. Over half of these were carried by the Montreal and Toronto systems and, of the 37 railways, 9 in the larger cities carried over 87 p.c. of the total traffic. The total investment for 1936 was \$214,820,798, gross earnings were \$41,391,927, and miles of track operated were 1,800.



Tests of a new type of automotive vehicle which links highway and railway have been made on branch lines in the three regions of the Canadian National System. "Auto-railers" for passengers and for freight are now ready for service. The small flanged wheels are drawn up when the car is operated on the highway. This operation is controlled from the driver's seat and it requires only about one minute's time to change from road to rail or vice versa. It is expected that the cars will cut down operating costs very considerably on light traffic branch lines and at the same time give better service.

Courtesy, Canadian National Railways.

Express Companies.—Express service might be defined as an expedited freight service on passenger trains. Services provided by the Canadian National, Canadian Pacific, and Northern Alberta Railways and by the Railway Express Agency on United States lines in Canada operate over 63,146 miles of railway, steam boat, motor bus, and aircraft routes. In addition to handling freight ranging from small packages to car loads of fish, fruit, race horses, etc., money orders are sold and redeemed. Total revenues for 1936 amounted to \$17,169,315, employees numbered 4,293, and the payroll, including part-time wages, amounted to \$6,962,413.

Reads and Highways.—Since the advent of the motor vehicle, and more especially since 1919 when the Dominion Government made a grant to the provinces of \$20,000,000 for the construction of roads and to relieve unemployment, the mileage of paved highways has increased rapidly each year. For the seven years 1929-35 the average expenditure on rural roads was over \$73,000,000 exclusive of some expenditures on local roads by rural



A Covered Bridge near Causapscal, Gaspe Peninsula, P.Q.—Covered bridges such as the one shown are still fairly common in Quebec. Where snowfall is heavy and bridges are narrow they reduce considerably the dangers of transportation in winter.

Courtesy, Canadian Government Motion Picture Bureau.

municipalities. These expenditures ranged from \$93,000,000 in 1930 to \$40,500,000 in 1933. The mileage of surfaced roads during these years increased by 16,000 miles, amounting to 96,403 miles in 1935. This includes 84,656 miles of gravel surface and 11,747 miles of cement concrete, bituminous macadam and concrete, water-bound macadam, and oil-treated gravel.

Mileage Open for Traffic and Expenditures on Highways, 1935

Class of Highway	Mileage	Expenditure ¹	\$
Earth—not surfaced Gravel or crushed stone Oil-treated gravel. Water-bound macadam. Bituminous macadam Bituminous concrete. Cement concrete. Asphalt	314, 405 84, 656 3, 124 1, 539 1, 433 2, 946 1, 997 492	New construction Major improvements, widening, etc. Maintenance, minor improvements ² . Cleaning, snow clearing, sanding, etc. Administration and general ex-	39,073,100 3,343,814 21,128,106 610,310 2,747,658
Total	216	Total	66,902,988

¹ Including bridges and ferries.

Motor Vehicles.—The number of motor vehicles registered in Canada has increased steadily and rapidly. In 1906 there were only 1,447 vehicles registered; by 1916 they had increased to 128,328, by 1926 to 832,268 and

² Including footpaths and sidewalks \$21,646.

CANALS

in 1936 the peak of 1,240,124 was reached. This was an average of one motor vehicle to each 8·9 persons. This extensive use of motor vehicles is revolutionizing civilization in Canada as in other countries. The passenger travel by steam railways has declined rapidly but the total travel has probably increased many times during the past two decades. The consumption of gasolene in 1936 amounted to over 624,000,000 gallons and around 85 p.c. of this was consumed by motor vehicles. The number of persons killed in motor vehicle accidents has increased with the increased use of motor vehicles and in 1936 amounted to 1,313 persons. This was an increase over 1935 of 89 persons, or 7·3 p.c., and over 1933 of 358 persons, or 37·5 p.c., whereas the increase in gasolene consumption by motor vehicles, which measures approximately the miles run, increased 6·5 p.c. over 1935 and 26·4 p.c. over 1933.

The provincial taxes for registrations of motor vehicles, drivers, operation of trucks and buses in public service, etc., amounted to \$26,493,922 in 1936 and the tax from the sale of gasolene was \$34,532,436, making a total of \$61,026,358. Out of this must be deducted the costs of administration before computing revenue available for highway work.

Number of Motor Vehicles Registered in Canada, by Provinces, calendar years 1920, 1925, and 1930-36

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
1920 1925 1930 1931 1932 1933 1934 1935	1,418 2,947 7,376 7,744 6,982 6,940 7,206 8,231 7,632	12,450 22,745 43,029 43,758 41,013 40,648 41,932 43,952 46,179	11, 121 18, 863 34, 699 33, 627 28, 041 26, 867 29, 094 31, 227 33, 402	41,562 97,418 178,548 177,485 165,730 160,012 165,526 170,644 181,628	$342,174 \\ 562,506$	38,257 50,884 78,850 75,210 70,840 68,590 70,430 70,660 74,940	127, 193 107, 830 91, 275	38,015 54,538 101,119 94,642 86,781 86,041 89,369 93,870 97,468	28,000 56,427 98,938 97,932 91,042 88,554 92,021 98,411 106,079	408,790 724,048 1,232,489 1,200,668 1,113,533 1,083,178 1,129,532 1,176,116 1,240,124

¹ The figures include vehicles in Yukon.

Canals.—Canals were the earliest large transportation works in Canada. One of the first locks was a small one constructed by the Hudson's Bay Co. at Sault Ste. Marie which was destroyed by United States troops in 1814. Another was built at the Lachine rapids in the St. Lawrence above Montreal in 1825, followed by the Welland canal in 1829 to overcome the obstacle of Niagara falls. The Rideau canal (military in primary purpose), the St. Lawrence System and the Chambly canal followed. To-day there are seven canal systems under the Dominion Government, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to lake Huron, (6) from the Atlantic ocean to Bras d'Or lakes in Cape Breton. and (7) from Winnipeg on the Red river to lake Winnipeg. The total length of the waterways comprised in these systems is about 1,846 statute miles. Among projected canals the most important are those connected with the deepening of the St. Lawrence waterway.

The Great Lakes and St. Lawrence river form one of the busiest waterways in the world. More traffic passes up and down the Detroit river than any other waterway and the traffic through the canals at Sault Ste. Marie in 1929 reached a peak of 92,616,898 tons, more than through the Panama and Suez canals combined. The greater part of this traffic is iron ore from lake Superior to United States ports on lake Eric and return cargoes of coal, and grain down-bound destined to St. Lawrence ports, and Buffalo, and small quantities to other ports.

The draught of vessels on the lakes is governed by channels in the Detroit and St. Mary's rivers, limiting it to around 21 feet, and since the opening of the Welland Ship canal, with 25 feet in the stretches between locks (the locks have 30 feet of water above the sills), the large upper lake vessels now pass down as far as Prescott. The St. Lawrence canals have a depth of 14 feet and in periods of low water it is further reduced so that ocean vessels cannot yet sail up into the lakes although some small Norwegian vessels have been engaged in the Great Lakes traffic for several years, bringing over cargoes from European ports. In 1928 the St. Lawrence canal traffic amounted to 8,411,542 tons and in 1936 to 8,288,524 tons. Around one million tons of this 1936 traffic was through-traffic to and from lake Superior, three and one-half million tons was to and from ports above the Welland canal and the remainder was for lake Ontario, St. Lawrence and Ottawa river ports. About a third of the St. Lawrence and Welland canal traffic is grain and other agricultural products.



Oil Tankers off the Wharves of Oil Refineries, Montreal East.

Courtesy, Imperial Oil, Limited.

Shipping.—The tonnage of sea-going and inland international vessels entered and cleared at Canadian ports showed an almost continuous increase up to 1914, and again during the fiscal years ended Mar. 31, 1920 to 1929. The effects of the depression, however, are evident here also but each of the years ended Mar. 31, 1934, 1935, 1936, and 1937 showed an

increase over the preceding year, 1937 recording a new high at 94,586,746 tons. The coasting vessels have also shown increases during the past four years, amounting to 91,421,172 registered net tons in 1937.

The vessels on the Canadian Shipping Registry in 1902 numbered 6,836 of 652,613 tons. Subsequently there was a fairly steady increase in the number of vessels to 8,573 in 1919, followed by a decrease to 7,482 in 1921; since 1921 there has been an increase to 9,373, representing 1,367,071 tons in 1936.



Aids to Navigation.—A typical beacon such as is to be found at many places along Canada's extensive shores and estuaries. The beacon illustrated is located near Rivière-à-la-Martre, Gaspe Peninsula, P.Q.

Courtesy, Canadian Government Motion Picture Bureau.

In the '70's shipbuilding was an important industry in Canada, especially in the Maritime Provinces; the vessels built were mostly wooden sailing vessels. The invention of the iron steamboat greatly affected the industry in Canada, and there was a more or less steady decline in the number of vessels built and registered each year from 1885 to 1914. The War stimulated shipbuilding and there was a temporary activity assisted by the marine program of the Dominion Government. According to the figures published by the Department of Marine, the number of vessels built and registered in Canada in 1936 was 292 of 12,477 tons gross. Of

this number, 6 sailing and 16 motor vessels were built of steel, the remainder being wooden vessels, powered as follows: sail 37, steam 1, and motor 232. The value of production in the shipbuilding industry in 1935, as collected by the Census of Industry, was \$7,291,442, of which only \$380,199 was for vessels built or under construction, while \$6,029,679 was for repairs and custom work and \$881,564 for other products, including aeroplanes, boilers, engines, structural steel, etc.



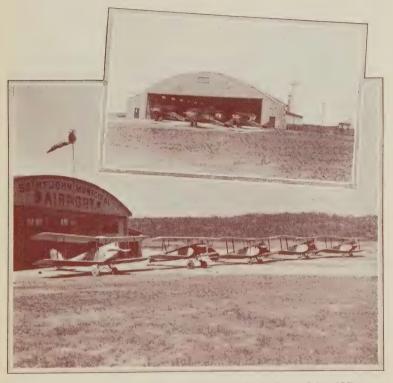
The Junkers JU 52 of Canadian Airways, largest transport plane in Canada, loading machinery at Schist Lake, for Island Falls. This is typical of commercial air transport in the north.

Courtesy, Canadian Aviation.

Telegraphs.—Canada's first telegraph line was erected in 1846-47 between Toronto, Hamilton, St. Catharines, and Niagara. In 1847, also, the Montreal Telegraph Co. was organized and a line built from Quebec to Toronto. Other lines rapidly followed, to be brought eventually under the single control of the Great Northwestern Telegraph Co., which remained alone in the field until the building of the Canadian Pacific railway and the Canadian Government telegraph lines. In 1936, there were 363,180 miles of telegraph wire in Canada, handling 12,735,186 messages, and the gross revenue was \$10,378,873. In addition, six transoceanic cables have termini in Canada, four on the Atlantic and two on the Pacific. There are also 18 other cables from Atlantic ports to Newfoundland, St. Pierre and Miquelon, Bermuda, and United States and Canadian ports. These handle over a million cablegrams annually. There are also radio stations open for commercial traffic, mostly government owned, but operated in part by the Marconi Wireless Telegraph Co., in addition to stations operated in connection with shipping, or private commercial stations operated by canneries, logging companies, etc. The number of wireless messages handled is increasing and is now over 300,000 a year.

Telephones.—The telephone was invented in Canada, and the first long-distance talk was conducted by Alexander Graham Bell between Brantford and Paris, a distance of eight miles, on Aug. 10, 1876. Tele-

phone development in Canada, however, dates only from 1880. In 1883 there were only 4,400 rental-earning telephones, 44 exchanges and 40 agencies, with 600 miles of long-distance wire. In 1935 the number of telephones was 1,208,815 with a wire mileage of 5,120,610, the investment being \$327,754,026. In the three Prairie Provinces there are well-organized government systems. Next to the railways, the telephone companies are probably the largest annual investors in new plant and construction in the Dominion. Canada has more telephones in proportion to population than any other country except the United States.



Fleet of Planes of the Saint John Flying Club, Saint John, N.B. Inset: Airport of the Regina Flying Club, Regina, Sask. Courtesy, Canadian Aviation.

Air Navigation.—The relatively recent invention of the aeroplane is now of economic importance in the transportation of passengers and supplies to remote mining areas, etc. The mileage flown by aircraft increased from 185,000 in 1922 to 7,100,401 in 1936, when 115,834 passengers, 22,947,105 pounds of freight, and 1,161,069 pounds of mail were carried.

The aeroplane has proved a boon to Canada in developing her mining, forest, fishery, water-power and other resources. By shortening the immense distances which characterize the country and by facilitating the rapid exploration of northern areas, the heavier-than-air machine has

found a permanent place in the administrative field. Aerial forest fire patrols are now carried on over large parts of almost every province; fishery patrols by aeroplane protect territorial waters and enforce fishing regulations; and by the use of aeroplanes equipped with special cameras, preliminary surveys, which would have taken years by the older methods, are now rapidly made over large tracts of difficult and little known country.



A Group of Commercial Air Transport Planes tied up at Goldpines, Ont.

Courtesy, Canadian Aviation.

National Radio.—The Canadian Broadcasting Corporation, on Nov. 2, 1936, replaced the Canadian Radio Broadcasting Commission, following repeal by Parliament at the Session of 1936 of the Canadian Radio Broadcasting Act. Modelled along lines of the Canadian Press—a national co-operative news gathering agency—and the British Broadcasting Corporation, the CBC is operated by a General Manager and an Assistant General Manager with head offices in Ottawa. The executive is responsible to a Board of Governors, members of which are unpaid.

The CBC, invested with much wider powers than had been enjoyed by the Canadian Radio Commission, was guided to some extent by the experience the Commission gained from the substantial pioneer work which it had carried out. During its first year of operation, the CBC effected many changes and improvements in the national system as a whole. Two coast-to-coast surveys were undertaken, one to investigate technical problems relating to broadcast coverage and the other to ascertain what improvements were necessary in the character and quality of programs. In February, 1937, the Corporation completed and put into operation near Vancouver a new 5,000-watt regional transmitting station to increase coverage in British Columbia. In April, British Columbia and Prairies Regions of the Corporation were established, the headquarters of the latter

was at Winnipeg and the former at Vancouver, each being provided with voluntary advisory councils representing the provinces covered.

Following various meetings of the Board of Governors and continued investigations by the General Manager and the Assistant General Manager of technical and program problems, it was decided to improve coverage in the provinces of Ontario and Quebec. In June, work was started on the construction of two 50,000-watt transmitting stations, one at Verchères, P.Q., the other at Hornby, Ont. These two powerful plants, in which the



Modern Transmitter Buildings and Antenna Towers recently Brought into Operation by the Canadian Broadcasting Corporation.—The upper pictures show the transmitter building at Hornby, Ont., and the top of the 647-foot antenna tower tapering into the sky. The lower pictures are of the transmitting station at Verchères, P.Q., and the base of the 600-foot vertical radiator tower. This tower weighs about 70 tons and is supported, as shown, by a ball and socket joint resting on a special porcelain insulator; steel guy ropes hold the tower in position. The buildings are constructed of concrete and glass brick and are most modern.

Courtesy, Canadian Broadcasting Corporation.

most modern and scientifically correct equipment are incorporated, were inaugurated towards the end of the year as CBF and CBL. As a result both provinces now are provided with vastly improved coverage and dependable reception. Quebec, moreover, is equipped with French and English outlets, CBF being utilized chiefly for broadcasts in the French language and CBM, the Corporation's original 5,000-watt station at Montreal, being used to provide the smaller English population with broadcasts in the English language. The Corporation is making plans for the

construction of other high-powered stations for regions not already covered. These will be located in the Maritimes and on the Prairies and will be undertaken as soon as finances permit.

Until Oct. 3, 1937, the Corporation had been broadcasting on a six-hour daily regional and national schedule, but, as a result of agreements made with the wire companies from which lines are leased for the transmission of programs, this schedule was increased to twelve hours daily with the prospect of extension to eighteen hours. This increase in broadcast time made it possible for the Corporation to operate on a national hook-up for a considerable part of the day.

Besides technical problems, the Corporation concerned itself with matters of improvement in programs during this, the first year of operations. Results of surveys made were carefully analysed and, as a result, the character and quality of broadcasts presented over the national system were steadily raised. New programs, embracing all types, were specially designed to reflect the distinctive character of Canadian life. One of the most important aims of the Corporation, moreover, was to effect exchange of programs not only with Great Britain and the United States but with other European countries. This exchange has been carried out with unusual success and Canadian listeners are now provided with material originating not only in their own country but in various parts of the world. The standard of announcing has been steadily raised.

Among the most important public service broadcasts undertaken by the Corporation, during the period covered by this report, were the constitutional crisis in November, 1936, the Accession Ceremony in December, 1936, and "Canada Broadcasts Christmas", a special panorama program on Dec. 25, 1936. Early in 1937, the Corporation inaugurated a series of actuality broadcasts entitled "Night Shift", in which a CBC commentator described scenes of Canadian life and activity. CBC's broadcasting activities on Coronation Day, May 12, were considered a triumph and extended for twenty-three hours without interruption. On July 1, the Corporation broadcast an exchange of greetings between President Roosevelt of the United States and His Excellency, Lord Tweedsmuir, Governor General of Canada. In August, 1937, CBC sent its own commentator to New York to broadcast for Canadian and British listeners the battle for the heavyweight championship of the world.

An important new feature of program policy of the Corporation was the presentation of a wide variety of talks and discussions on subjects of national and international interest for which there is in Canada an exceptional demand. Radio talks and discussions of this nature during the past year included the following topics: "Canadian Defence—What We Have to Defend"; "Our Heritage of Freedom"; "The Canadian Constitution"; "Democracy at Work", descriptive accounts of how departmental machinery in Ottawa operates; "Canada Week by Week", a weekly stocktaking and progress account of the general state of trade and commerce throughout the country, prepared and presented by officers of the Dominion Bureau of Statistics, Department of Trade and Commerce; "Canadian Portraits"; "Talks by Indians"; "Sports in Canada"; and a number of others. These talks were supplemented from time to time with special addresses by distinguished speakers visiting Canada.



The Post Office.—The Post Office is under the direction of a special Department of the Dominion Government. The number of post offices has increased from about 3,470 in 1867 to over 12,000 in 1937, the postal revenue in 1936-37 being approximately \$41,181,000, showing a net increase of \$1,978,000 over the previous year. Rural mail delivery dates from 1908. The Post Office Department, in the fiscal year 1936-37, issued money orders to the amount of \$124,000,000 payable in Canada and \$9,000,000 payable in other countries, a combined net increase over the previous year of \$11,000,000. In addition, postal notes to the value of \$12,020,000 were issued in 1936-37. During the War, there was a general increase in postage rates, but these were gradually reduced again between 1926 and 1930. They were increased once more on July 1, 1931, and since that date the letter rate of postage for Canada, Great Britain, the British Empire, France, the United States and all other places in North and South America, has remained at 3 cents for the first ounce and 2 cents for each additional ounce.

In its per capita use of the mails Canada takes a high place. In 1868, the year following Confederation, the average postal expenditure for each member of the population was less than 27 cents, whereas during 1937 each person in Canada expended approximately \$3.70. This is remarkable when it is considered that rates of postage have decreased during this period.

Official air mail service was inaugurated in October, 1927. In the first year of operation, 1927-28, the mileage flown was 9,538 and the weight of mail carried, 38,484 lb.; during 1931-32, 1,229,021 miles were flown and 443.501 lb. of mail were carried; during 1935-36, 852,108 miles and 1,189,982 lb.; while during 1936-37, the figures were 977,864 miles and 1,200,831 lb.

The development of gold mining has brought about the establishment of air mail services to outlying points in Canada, principally to the districts surrounding Red Lake, McKenzie Island, Narrow Lake, Goldpines, Jackson Manion* in Ontario; Herb Lake, Wadhope, Bissett† in Manitoba; Lac la Ronge, Ile à la Crosse‡ in Saskatchewan; and Cameron Bay in the Great Bear Lake section of the Northwest Territories.

In addition to the above, there are many air mail services to remote and otherwise almost inaccessible areas, the most important of which is that between Fort McMurray, Alta., and Aklavik, N.W.T., a distance of approximately 1,500 miles. Others serve Coppermine on Coronation gulf; Fond du Lac on lake Athabaska; Atlin and Telegraph Creek in northern British Columbia; Berens River on lake Winnipeg; Norway House and Cross Lake in Manitoba; also Fort St. John, Fort Nelson, B.C., and White Horse, Yukon, served from Edmonton.

During the winter season Pelee Island is served by air from Leamington, Ont.; remote settlements along the north shore of the gulf of St. Lawrence from Quebec to Harrington Harbour; the Magdalen islands from Charlottetown, P.E.I.

During the season of open navigation air mail service between Mont-real and Rimouski is operated to connect with the principal transatlantic steamers.

Although intercity air mail services were seriously curtailed a few years ago, there is at present in operation the service between Moncton and Charlottetown, as well as the international services between Ottawa, Montreal, Albany and New York, between Winnipeg and Pembina, and between Vancouver and Seattle.

Gold production in Canada has undoubtedly been greatly stimulated by the efficiency of the postal service rendered and this, in turn, has assisted materially in the development of first-class air transportation facilities, making the shipment of mining equipment and personnel a relatively simple matter.

The creation of a chain of landing fields across the Maritime Provinces, northern Ontario, and British Columbia may be taken as indicative of the establishment of intercity air mail services on a comprehensive scale in the not too distant future.

^{*} Casummit Lake and Pickle Crow. † Beresford Lake, Diana and Gods Lake, Coldfields.

CHAPTER XV

PUBLIC FINANCE

Dominion Finance

Among the powers conferred on the Dominion Government by the British North America Act were: the right to deal with the public debt and property; the right to raise money by any system of taxation (the provinces were limited to direct taxation); and the borrowing of money on the credit of the Dominion. The Department of Finance was established in 1869 to have "supervision, control and direction of all matters relating to financial affairs, public accounts and revenue and expenditure of the Dominion".

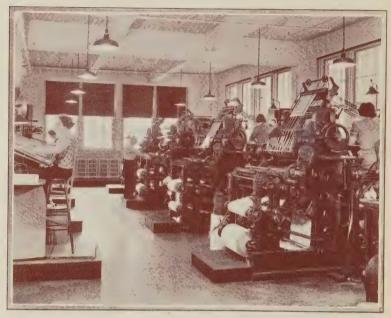


The Royal Canadian Mint, Ottawa.—View of the new refinery wing looking south from driveway. The Peace Tower is seen in the distance to the extreme right.

Courtesy, Canadian Government Motion Picture Bureau.

At Confederation the revenues, notably the customs and excise duties which had previously accrued to the treasuries of the provinces, were transferred to the Dominion and combined into a consolidated revenue fund against which certain specific charges such as cost of collection, interest on public debt, and salary of the Governor General was made. The remainder of the fund was appropriated by Parliament. The public works, cash assets and other property of the provinces, except lands, mines, minerals and royalties, also became Dominion property. In its turn the Dominion became responsible for the pre-existing debts of the provinces.

Since the main source of the revenues of the provinces was now taken over, the Dominion undertook to pay annual subsidies to the provinces for the support of their governments and legislatures. With the growth of the Dominion, the principle of subsidy payments has been extended to the western provinces and from time to time adjustments have been made in the moneys so paid.



Presses in Ottawa Printing Canada's Bonds, Revenue Stamps and
Paper Money.

Courtesy, British American Bank Note Company.

At the time of the formation of the Dominion, the revenue collections were comparatively small but obligations shouldered by the central government provided for completion of the Intercolonial railway, and, with the entry of British Columbia, for the construction of the Canadian Pacific railway; early in the present century the National Transcontinental was undertaken. Indeed, the single item of railways and canals accounted for almost the entire increase in the net direct debt of from \$76,000,000 in 1868 to \$336,000,000 in 1914. To a very great extent, therefore, the national debt down to the Great War represented expenditures for productive purposes and tangible assets were acquired by the Dominion therefor. Moreover, this debt was largely held outside Canada. The next decade witnessed the tremendous increase in the direct debt from \$336,000,000 to a maximum of \$2,453,777,000 in 1923—an increase of over two billions of dollars not represented, in the main, by corresponding assets and upon which interest charges were relatively high. One redeeming feature was that the major portion of this debt was held within the country, for the abnormal

prosperity induced by the War provided Canadians with the funds to invest in Government issues and the added desire of the Government to tap the rapidly accumulating resources of the masses was instrumental in instructing the man-in-the-street how to invest his money in bonds. Following 1923 there was a steady fall in the net direct debt to \$2,177,764,000 in 1930, but the depression, with accompanying railway deficits and large necessary expenditures for unemployment relief, has established a new high level of indebtedness of \$3,084,000,000, as at Mar. 31, 1937, or an equivalent of \$277.33 net debt per capita.

The growth of the Dominion revenue, the Dominion expenditure and the net public debt is briefly outlined in the following table:—

Dominion Finances, 1868-1937

Note.—Figures of revenue receipts and total expenditure from 1930 to 1937 have been revised to conform with the set-up of the Public Accounts adopted in the fiscal year 1935-36. (See p. 146.)

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Fiscal Year		Capita		Capita Expendi-	at End of	Debt
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1871 1881 1891 1901 1911 1921 1922 1927 1928 1929 1930 1930 1931 1932 1933 1934 1935	19, 375, 037 29, 635, 298 38, 579, 311 52, 516, 333 117, 884, 328 436, 292, 184 438, 309 400, 452, 480 429, 642, 577 460, 151, 481 453, 007, 129 357, 720, 435 334, 508, 081 311, 735, 286 324, 660, 590 361, 973, 763 372, 595, 996	3.90 5.25 6.85 7.98 9.78 9.78 49.65 40.51 41.56 43.69 45.88 34.48 31.84 29.19 30.00 33.70	14, 071, 689 19, 293, 478 33, 796, 643 40, 793, 208 57, 982, 866 122, 861, 250 528, 302, 513; 355, 186, 423; 358, 555, 751; 378, 658, 440; 388, 805, 963; 405, 266, 383; 441, 568, 413; 448, 742, 316; 532, 369, 940; 478, 106, 581; 532, 565, 555;	4 · 01 5 · 23 7 · 82 8 · 44 10 · 80 17 · 05 60 · 12 37 · 58 37 · 21 38 · 50 38 · 77 39 · 70 42 · 56 42 · 71 49 · 84 42 · 33 43 · 72 48 · 29	75, 75, 75, 7135 77, 706, 518 155, 395, 780 237, 809, 031 268, 480, 004 340, 042, 052 2, 344, 878, 984 2, 389, 731, 099 2, 347, 834, 370 2, 296, 850, 233 2, 225, 504, 705 2, 177, 763, 985 2, 261, 611, 937 2, 375, 846, 172 2, 596, 480, 826 2, 729, 978, 140 2, 846, 110, 951 3, 006, 100, 517	\$ 21.58 21.06 35.93 49.21 49.99 47.18 266.37 252.85 233.54 221.91 213.34 217.94 226.14 243.09 252.25 260.28 272.59

¹ Includes advances to railways and transfers from active to non-active assets.
² Per capita figures for census years are based upon census populations and for intervening years on revised official estimates.

Fiscal Year 1936-37.—The Minister of Finance, the Hon. Chas. A. Dunning, in his Budget Speech of Feb. 25, 1937, outlined the financial position of Canada and estimated the 1937-38 income and expenditure of the Government. It was estimated that the over-all deficit for 1937-38 should not exceed \$35,000,000. The only changes in taxation were minor additions to the schedule of exemptions under the sales tax. Substantial changes, however, were made in the Customs Tariff arising in part from the Trade Agreement with the United States.

The Public Accounts.—In the Public Accounts receipts on ordinary account are classified under two headings: (1) receipts from taxation; and (2) non-tax revenue resulting from public services maintained by the Government. Special receipts, which are usually of a non-recurring character, are included in a third category. Expenditures are now being classified under four headings: (1) ordinary expenditures, which include the ordinary operating costs of government, pensions, subsidies to provinces,

etc. (in the fiscal years ended Mar. 31, 1936 and 1937, certain expenditures previously included in special expenditures were reclassified as ordinary expenditures, and appropriate adjustments for comparative purposes have been made in the tables showing figures for earlier years); (2) capital expenditures on account of railways, canals and public works; (3) special expenditures consisting chiefly of expenditures designed to relieve unemployment and agricultural distress, etc.; and (4) Government-owned enterprises, representing losses of, or non-active advances to, Government-owned enterprises which are operated as separate corporations. Previous to the fiscal year 1935-36, this latter type of expenditure was shown under special expenditures or loans and advances (non-active).

The public revenues increased by \$81,558,000 in 1936-37 as compared with the previous year, substantial increases being registered in the receipts from customs duties, excise duties, income tax, and sales tax.

Total receipts from taxation for the year 1936-37 amounted to \$386,551,000 as compared with \$317,312,000 in the previous year, \$304,444,000 in 1934-35 and \$271,851,000 in 1933-34. Summary figures of receipts and expenditures follow:—

Summary of Total Receipts, fiscal years 1934-37

Item	1933-34	1934-35	1935-36	1936-37
	\$'000	\$'000	\$'000	\$'000
Customs Import Duties. Excise Duties. War Tax Revenue—	66,305	76,562	74,005	83,771
	35,494	43,190	44,410	45,957
Banks. Insurance companies.	1,336	1,368	1,281	1,210
	742	750	761	775
Income tax Sales tax Tax on cheques, excise taxes, etc. Tax on gold.	61,399 61,391 45,184	66,808 72,447 39,745 3,574	$\begin{array}{c} 82,710 \\ 77,552 \\ 35,181 \\ 1,412 \end{array}$	102,365 112,832 39,641
Totals, Receipts from Taxation Non-tax Revenues	271,851	304,444	317,312	386,551
	52,220	54,031	54,910	58,478
Total Consolidated Fund Receipts	324,071	358,475	372,222	445,029
	590	3,499	374	9,125
Grand Totals	324,661	361,974	372,598	454,154

Summary of Total Expenditures, fiscal years 1934-37

Item	1933-34	1934-35	1935-36	1936-37
	\$'000	\$'000	\$'000	\$'000
Ordinary Expenditure. Capital Expenditure. Special Expenditure! Government-owned Enterprises ² . Other Charges.	351,771 6,580 35,899 61,051 2,857	359,701 7,107 60,660 50,137 502	372,539 6,544 102,047 50,941 515	387, 112 3, 492 78, 004 44, 218 19, 179
Grand Totals	458,158	478,107	532,586	532,005

¹ Includes \$35,899,000 for unemployment relief in 1933-34, \$1,987,000 in 1934-35, \$49,836,000 grants-in-aid to provinces and relief projects and \$8,751,000 special drought area relief in 1936-37.

2 Includes net income deficit of the Canadian National Railways (including Eastern Lines deficit) incurred in the calendar years 1933 to 1936 as follows: \$58,955,000, \$48,408,000, \$47,421,000, and \$43,303,000, taken into the accounts of the Dominion in the fiscal year after the close of the calendar year.

It will be seen from the above tables that, for the fiscal year ended Mar. 31, 1937, total receipts of \$454,154,000 compared with total expenditures of \$532,005,000, including net income deficit of the Canadian National Railways amounting to \$43,303,000, \$69,253,000 for grants and relief, and \$8,751,000 special drought area relief. Thus the total deficit for that year was \$77,851,000. This is substantially less than the deficit of \$159,990,000 shown in the preceding year and substantially less than the deficits for 1934-35 and 1933-34 which amounted to \$116,132,000 and \$133,497,000, respectively.

Tariff Changes in 1937.—The most numerous and most important tariff changes of 1937 resulted from the revised Trade Agreement between Canada and the United Kingdom, signed at Ottawa on February 23rd. Canada's commitments under the Agreement were implemented by amendments to the Customs Tariff introduced during the course of the regular Budget Speech on February 25th.

The Agreement resulted in reduction of the British preferential rate of duty under 179 tariff items. The concessions included reduced rates, or free entry, on textiles, including those of wool, cotton, silk and artificial silk, as well as on clothing and wearing apparel, knitted goods of all kinds, blankets and carpets; on glass tableware and cut glass; on various primary forms of iron and steel, and on a wide range of processed steel goods, including machinery, vacuum cleaners and sewing machines, enamelled ware and electrical goods; on leather and leather products; on boots and shoes; on numerous paper products; and on paints and varnishes, earthenware, canned fish, soaps, brushes and silverware.

The 1937 Budget Speech also introduced a considerable number of tariff amendments not directly related to the Trade Agreement. Certain of these were merely technical in character, but others provided for reductions under all tariffs on fumigants, plastic materials, seamless well-casing, and other articles, and for reductions of the Intermediate or both Intermediate and General rates on a number of products of which plate glass and cotton clothing were among the most important.

There were no increases in duty under the British Preferential Tariff. The Intermediate rate on furniture was raised from 30 p.c. to $37\frac{1}{2}$ p.c., in each case less a discount of 10 p.c. to most-favoured-nations, as the result of a Tariff Board Report received while the House was in committee. Other increases of the Intermediate or General Tariff were few in number and of minor importance.

As a result of commercial arrangements with other countries, Canada, during 1937, extended her Intermediate Tariff to the Panama Canal Zone and accorded Brazil most-favoured-nation treatment. All non-self-governing British colonies and specified mandated territories were given most-favoured-nation treatment, and the list of countries entitled to the British Preferential Tariff was expanded by the addition of a number of non-self-governing colonies not already receiving its benefits. And, finally, the Trade Agreements with Australia and New Zealand were revised and extended. Canada granted some additional concessions to Australia and New Zealand, of which probably the most important was a reduction of the rate on lamb and mutton from 3 cents per lb. to ½ cent per lb. The reduced rates went into effect on Oct. 1, 1937.

Provincial and Municipal Finance

Provincial Finance

Provincial Governments in Canada are in the position, under Section 118 of the British North America Act, 1867 (30 and 31 Vict., c. 3), and the British North America Act, 1907 (7 Edw. VII, c. 11), of having a considerable assured income in subsidies from the Dominion Treasury. In addition, through the ownership of their lands, minerals and other natural resources, the provinces are in a position to raise considerable revenues through land sales, sales of timber, mining royalties, leases of water powers, etc. Further, under Section 92 of the British North America Act, provincial legislatures are given authority to impose direct taxation within the province for provincial purposes and to borrow money on the sole credit of the province.

Among the chief methods of taxation to be employed has been the taxation of corporations and estates. Prominent among the objects of increased expenditure are education, public buildings, public works (especially roads and highways), labour protection, charities, hospitals, and places of correction.

The Growth of Provincial Taxation.—Whereas in earlier years the Dominion subsidies, together with the revenues arising out of the natural resources of the provinces and from fees for specific services rendered to the citizens, nearly sufficed to cover the whole expense of government and rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, the great increase in the functions of government since the commencement of the present century has put an end to this state of affairs. Ordinary provincial taxation (covering taxation of corporations, lands, succession duties and amusements) increased from \$12,575,159 in 1916 to \$42,593,417 in 1929 and to \$51,621,242 in 1930, but there was a reduction to \$48,738,796 in 1931, \$44,313,514 in 1932, \$48,383,044 in 1933 and \$46.741.293 in 1934. In addition to this ordinary taxation, provincial revenues have been augmented by the control of the liquor traffic, the issuance of licences and permits for motor vehicles, and by the imposition of taxes on gasolene sales. In recent years the revenues collected from these sources alone have far exceeded those from ordinary taxation, the figures being: Liquor traffic control, 1929, \$27,599,687; 1930, \$33,248,056; 1931, \$32,128,693; 1932, \$24,832,427; 1933, \$16,160,980; 1934, \$12,814,120. Motor vehicles (including licences and permits), 1929, \$21,735,827; 1930, \$20,321,307; 1931, \$19,952,575; 1932, \$20,164,291; 1933, \$20,050,667; 1934, \$20,840,513. Gasolene tax, 1929, \$17,237,017; 1930, \$20,956.590; \$23,859,067; 1932, \$24,987,273; 1933, \$25,931,480; 1934, \$26,812,275. Returns for 1935 are not available at the time of going to press.

The increasing use of automobiles for both commercial purposes and pleasure is clearly demonstrated by the revenue figures for motor vehicles and gasolene taxes shown above. The fact that the gasolene tax revenue increased in 1931 whereas the figures for motor vehicle licences and permits showed a decline from the previous year, is not altogether attributable to a greater average mileage run per car but largely to an increased use of the gasolene tax as a source of provincial revenue. The rate of gasolene

tax has been increased repeatedly in all provinces since its inception and many of these increases were made in the period of the depression from 1930 to 1934.

Bonded Indebtedness of the Provinces.—The bonded indebtedness of the provinces amounts to about 77.5 p.c. of their total direct liabilities. In recent years, the aggregate bonded indebtedness of the provinces has steadily increased. The total for the nine provinces was \$704,225,134 in 1925, \$708,677,426 in 1926, \$742,388,684 in 1927, \$769,260,373 in 1928, \$817,940,202 in 1929, \$919,142,905 in 1930, \$1,016,647,165 in 1931, \$1,148,-323,084 in 1932, \$1,224,372,822 in 1933, \$1,329,684,651 in 1934, \$1,373,321,604 in 1935, and \$1,426,293,679 in 1936. This bonded indebtedness for 1936 was divided by provinces as follows: P.E.I., \$6,029,000; N.S., \$86,974,113; N.B., \$74,049,920; Que., \$164,747,607; Ont., \$602,027,288; Man., \$95,480,881; Sask., \$124,446,374; Alta., \$128,140,260; B.C., \$144,398,236. The development of the principle of public ownership is largely responsible for the high bonded indebtedness in certain provinces, particularly in Ontario where the hydroelectric system and the provincially-owned Temiskaming and Northern Ontario Railway largely account for the bonded indebtedness of the province. The larger of these public utilities, the hydro-electric system, is, however, meeting from its revenues the interest on the indebtedness incurred in its construction.

The expansion in the ordinary revenues and expenditures and the increase in direct liabilities of all Provincial Governments are shown for certain years 1873-1936 and for individual provinces for 1936 below:—

Aggregate Provincial Revenues and Expenditures

Fiscal Year	Ordinary	Ordinary	Direct
	Revenue	Expenditure	Liabilities 4
1	Revenue \$ 6,960,922 7,858,698 10,693,815 14,074,991 40,706,948 102,030,458 146,450,904 183,598,024 188,154,910 184,868,471 175,887,349 139,054,717 1,705,493 11,104,797 6,845,983 38,666,299 65,726,985 14,560,573 16,124,689	Expenditure \$ 6,868,884 8,119,701 11,628,353 14,146,059 38,144,511 102,569,515 144,183,178 177,542,192 184,804,203 200,527,219 229,483,726 159,513,105 1,730,147 10,953,079 7,270,953 40,589,475 79,093,690 14,536,596 17,054,663	Liabilities 4 \$ \$ \$ 138,662,442 565,470,552 893,499,812 1,034,071,264 1,140,953,696 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,370,436 1,717,400,400,400 1,717,400,400 1,718,542,126 214,099,853 1,74,925,719

¹ In addition, there were trust account liabilities amounting to \$41,946,386 in 1933 and \$47,920,235 in 1934. There were corresponding offsetting trust account assets amounting to \$37,684,406 in 1933 and \$47,920,235 in 1934. ² Figures of ordinary revenue and expenditure for 1935 and 1936 are subject to revision. ⁴ Not available. ⁴ Sinking tunds are not deducted.

Municipal Finance

Under the provisions of the British North America Act, the municipalities are the creations of the Provincial Governments. Their organization and their powers differ in different provinces, but almost everywhere they have very considerable powers of local self-government. If we include the local government districts of Saskatchewan and Alberta, there are 4,299 municipal governments in Canada. These 4,299 municipal governments have together probably 20,000 members described as mayors, reeves, controllers, councillors, etc., the experience training them for the wider duties of public life in the Dominion and in the provinces. Certain of the larger municipalities, indeed, are larger spenders of public money than are some of the provinces.

The cost of municipal government, like the cost of provincial and Dominion government, has greatly increased since the pre-war period, principally due to the increased services demanded from municipal bodies. Among such public services which play a large part in municipal expendiditures may be mentioned education, roads and highways, sanitation, fire and police protection, and charities and social relief. The cost of these services is almost entirely met by municipal governments through local taxation. In the province of Prince Edward Island there is no municipal system outside of the city of Charlottetown and seven small incorporated towns. With regard to New Brunswick, this province has not published statistics which show the municipal revenues throughout the province. The following table shows the tax imposition and the tax receipts of municipalities in each of the other provinces for the earliest available year as compared with similar returns for the year 1935.

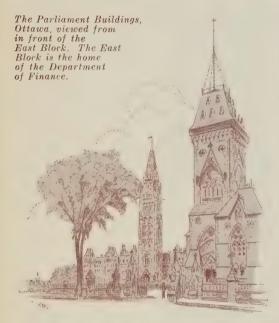
Municipal Tax Imposition and Receipts by Provinces

	7	Taxes Impose	d		Tax Receipts	
Province	Earliest Av	ailable Year	1935	Earliest A	vailable Year	1935
	Year	Amount	1999	Year	Amount	1950
		\$	\$		\$	\$
Nova Scotia Quebec Ontario Manitoba Saskatchewan Alberta British Columbia.	1 1913 1913 1913 1913 1914 1918	34,231,214 7,730,122 12,399,657 9,791,846 11,688,125	1 117,016,375 18,012,135 21,012,062 13,286,661 18,129,920	1918 1915 1924 1932 1921 1924 1917	3,462,587 33,288,115 94,526,271 17,290,889 22,278,621 10,706,183 9,382,099	7,073,053 59,729,973 122,108,912 16,622,464 16,769,993 10,900,409 17,185,917

¹ Statistics not available. ² Revenue for municipalities plus receipts for school corporations for 1934. Latest available information.

Municipal System of Taxation.—Throughout the Dominion, the chief basis of municipal tax revenue is the real estate within the limits of the municipalities; though in certain provinces personal property, income and business carried on are also taxed. General taxes are normally assessed at the rate of so many mills on the dollar of the assessed valuations, although the basis of assessment varies widely in different provinces and in municipalities within the same province. In some provinces Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

The period of depression was responsible for a very considerable delinquency in tax payments, while the burden of unemployment relief since 1930, which has been carried by the municipalities with help from the Provincial and Dominion Governments, has been increasingly heavy. The resulting heavy taxation upon real estate has tended to curtail new building for commercial and industrial as well as residential purposes and is responsible in no small measure for the slow recovery of the construction industry (p. 107) in spite of the encouragement of residential construction by the Dominion Housing Act (p. 103).



Bonded Indebtedness of Municipalities.-Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather too freely during the years between 1917 and 1930. The following table shows the total municipal bonded debt standing in each province for the years 1919 and 1935. also shows the amount of sinking funds held by municipal governments in each province in 1935 offsetting the bonded debt of that year.

Municipal Bonded Debt for 1919 and 1935 and Sinking Funds for 1935, by Provinces

Province	Indebte	oss Bonded edness of palities	Sinking Funds Offsetting Gross Bonded Indebtedness
	1919	1935	1935
Prince Edward Island.	\$	\$ 2.470 550	\$
Nova Scotia	11, 188, 467	2,479,550 33,866,913 27,538,898	522,843 12,367,142 7,142,948
Quebec. Ontario.	199,705,568 243,226,877	574,883,119 461,653,182	76,652,767 ¹ 56,833,480
Manitoba Saskatchewan	55,562,788 39,585,388	95,557,149 55,519,672	42,435,152 16,522,383
Alberta British Columbia	66,870,464 94,741,615	67,251,233 127,370,560	23,022,739 32,209,466
Totals	729,715,148	1,446,120,276	267,708,920

¹ Including \$14,164,589 reserve for depreciation.

CHAPTER XVI

CURRENCY AND BANKING—INSURANCE—LOAN AND TRUST COMPANIES—MISCELLANEOUS

Currency



Multiple Pantograph Machine with nine diamond points all ruling and reducing at the same time from the master matrix. This machine is used for engraving title and denominational tints on bank notes, cheques and securities.

Courtesy, Canadian Bank Note Company.

Early trade in Canada was carried on largely by barter. Beads, blankets, beaver and other furs, tobacco and wheat have been, at various times, used for currency. Further, under the French régime, playing cards stamped with a value and redeemable yearly on the receipt of bills of exchange on Paris, came into circulation. In the early vears of the British period, the Spanish dollar and the English shilling were the chief mediums of exchange, together with such paper money as the army bills issued by the Government for supplies during the War of 1812. In 1853 a measure passed providing for the adoption of decimal currency with a dollar equivalent to the United States dollar, and from

Jan. 1, 1858, the accounts of the Province of Canada were kept in terms of dollars. The use of the dollar as a monetary unit was extended throughout the new Dominion by the Uniform Currency Act of 1871.

The Canadian gold dollar weighs 25.8 grains, nine-tenths fine gold, and thus contains 23.22 grains of gold. Only very limited issues of gold coin have ever been made. British and United States gold coin are legal tender in Canada. Subsidiary silver coin is legal tender up to \$10; the 5-cent piece (now made of nickel) is legal tender up to \$5; and the 1-cent bronze coin, up to 25 cents. Since 1931, the Government has permitted the

export of gold only under licences issued by the Department of Finance, thus conserving the gold resources of the nation for meeting external obligations, and Canadian mines now dispose of their gold through the Royal Canadian Mint according to definite conditions of purchase.

Bank Notes.—Canadians early became accustomed to the free circulation of paper money, either in the form of notes of the chartered banks or of notes issued by the Government.

Under the Bank Act the chartered banks may issue notes of the denominations of \$5 and multiples thereof to the amount of their paid-up capital. This amount is to be reduced by 5 p.c. per annum for a period of five years from Jan. 1, 1936, and by 10 p.c. per annum for a period of five years from Jan. 1, 1941. In case of insolvency, bank notes are a first lien on assets and for over fifty-five years no note holder has lost a dollar.

In addition to notes of the chartered banks, there are also now in circulation notes of the Bank of Canada. These notes may be issued to any amount as long as the Bank maintains a reserve in gold equal to at least 25 p.c. of its note and deposit liabilities. Prior to the establishment of the Bank of Canada, the Government issued notes under certain statutory authorities, backed in part by gold and securities. The Dominion's liability in respect of these notes was assumed by the Bank of Canada on Mar. 11, 1935. The following statement shows the average amount of bank notes and Dominion (or Bank of Canada) notes outstanding in various years.

Notes Outstanding, 1900-371

(Yearly Averages)

Year	Dominion or Bank of Canada Notes Outstanding	Bank Notes Outstanding	Year	Dominion or Bank of Canada Notes Outstanding	Bank Notes Outstanding
1900	89,628,569 305,806,288 204,381,409 174,616,019	288,800,379 178,291,030 159,341,085	1932 1933 1934 1935 1936 1937 ²	179,217,446 190,261,981 127,335,340 ¹	\$ 132,165,942 130,362,488 135,537,793 125,644,102 119,507,306 111,464,553 2

¹ Since Mar. 11, 1935, the figures used represent Bank of Canada notes. ten months.

² Average for

Banking

The Canadian banking system is a product of evolution, having grown up gradually with changes made from time to time as experience directed. Its most distinctive feature, the branch bank system, is well adapted to the needs of a country of wide area and scattered population.

Banking in Canada began to develop some of the features of a central bank system soon after Confederation. These in chronological order have been:—

(1) Central Note Issue, permanently established with the issue of Dominion notes under legislation of 1868.

- (2) The Canadian Bankers' Association, established in 1900 to effect greater co-operation in the issue of notes, in credit control, and in various other ways.
 - (3) Central Gold Reserves, established in 1913.
- (4) Re-discount Facilities, made a permanent feature of the system in 1923, provided the banks with a means of increasing their legal tender cash reserves at will.
 - (5) The Bank of Canada, established in 1935.

The Bank of Canada.—Established as the central bank of the Dominion and commencing business on Mar. 11, 1935, the Bank of Canada assumed the liability of the Dominion notes then in circulation in return for gold and silver held by the Government as security for Dominion notes and 3 p.c. five-year Dominion of Canada bonds. The chartered banks also surrendered to the Bank of Canada the gold held by them in Canada at the currency value (\$20.67 per fine ounce). An allowance was made to the banks in respect of 40 p.c. of the gold held by them, which proportion of their gold was considered as being held against foreign liabilities. For this gold they received the market price.



Architect's Drawing of the new Bank of Canada now being built at Ottawa.

(See also p. 103.)

Courtesy, Bank of Canada.

The Bank is empowered to buy and sell securities in the open market; to discount securities and commercial bills; to fix minimum rates at which it will discount; to buy and sell bullion and foreign exchange. It is the main issuer of paper money in Canada and will become increasingly so as the chartered banks gradually reduce their issues to 25 p.c. of their

paid-up capital (see p. 153). The Bank may issue notes to any amount so long as it maintains a reserve of gold coin and bullion equal to not less than 25 p.c. of its note and deposit liability in Canada. The reserve in addition to the gold coin and bullion may include silver bullion, foreign exchange, securities of the United Kingdom and the United States having a maturity not exceeding three months and bills of exchange having a maturity not exceeding ninety days, payable in the United Kingdom, the United States or a gold standard country.

The chartered banks are required to maintain a reserve by way of deposit with the Bank and Bank of Canada notes of not less than 5 p.c. of their deposit liabilities in Canada.

THE ROYAL CANADIAN MINT



Courtesy, Royal Canadian Mint and Canadian Government Motion Picture Bureau.

The Bank acts as the fiscal agent of the Dominion of Canada and may, by agreement, act as banker or fiscal agent for any province. The Bank does not accept deposits from individuals and thus does not compete with the chartered banks in the commercial banking field.

The following statement gives the main items of assets and liabilities of the Bank of Canada at Oct. 31, 1936, and Oct. 31, 1937.

STATEMENT OF ASSETS AND LIABILITIES OF THE BANK OF CANADA AT OCT. 31, 1936, AND OCT. 31, 1937

	1936	1937
Notes in circulation\$129	,883,439	160, 356, 048
Dominion Government deposits	, 160, 789	31,580,913
Chartered banks' deposits. 182	,876,698	198,572,328
Gold coin and bullion		179,578,886
Investments	,419,082	191, 471, 672
Total assets and liabilities. 348	. 237. 739	405 029 452

Commercial Banking.—The number of chartered banks, which was 36 in 1881 and 34 in 1901, decreased to 25 in 1913 and is now only 10. This lessening of the number of banks has been accompanied by a great increase in the number of branches. In 1868 there were only 123 branch banks in Canada. By 1902 the number, including sub-agencies, had grown to 747, by 1916 to 3,198 and by 1929 to 4,069, but by the beginning of 1937 the number had decreased to 3,398. From 1867 to October, 1937, the total assets have grown from \$78,000,000 to \$3,299,000,000.

Of late years the banks of Canada have extended their business outside of the country itself and at the beginning of 1936 had among them 147 branches, not including sub-agencies, in foreign countries, mainly in New foundland, the West Indies, Central and South America and in the great centres of international finance, London, Paris, and New York.

The number of branches, assets, liabilities, loans and deposits of the Canadian chartered banks as at Oct. 31, 1937, by banks, together with totals (yearly averages) for certain years are shown in the following table.

Statistics of Individual Chartered Banks as at Oct. 31, 1937, with Totals for Certain Years, 1900-36

	1	1	1				
Bank	Branch- es in Canada and Abroad ¹	Total	Liabili- ties to Share- holders	ties to the	Lotai	Loans and Dis- counts	De- posits by the Public
	No.	°000,000	°000,000	°000,000	°000,000	°000,000	°000,000
Bank of Montreal. Bank of Nova Scotia. Bank of Toronto. Banque Provinciale du Canada. Canadian Bank of Commerce. Royal Bank of Canada. Dominion Bank Banque Canadienne Nationale. Imperial Bank of Canada. Barclay's Bank (Canada).	496 303 172 135 592 719 131 224 187	830 297 137 56 649 867 135 149 160	75 36 15 5 5 50 55 14 12 15 2	753 260 120 51 595 808 121 136 144 17	828 296 135 56 645 863 135 148 159	232 117 49 19 233 352 63 69 74	706 240 111 47 538 741 108 127 132
Totals, Oct. 1937. Totals, 19364 Totals, 19355- Totals, 19300 Totals, 19200 Totals, 19104 Totals, 19004	2,961 2,978 3,598 4,876 2,621 3 641	3,299 3,145 2,957 3,237 3,064 1,211 460	279 278 278 278 305 252 179 98	3,005 2,856 2,668 2,910 2,784 1,019 356	3,284 3,134 2,946 3,215 3,036 1,198 454	1,210 1,141 1,276 2,065 1,935 870 279	2,759 2,615 2,427 2,517 2,438 910 305

¹ As at Dec. 31, 1936. Does not include sub-agencies.

operations in Canada in September, 1929.

³ 1911.

⁴Totals are averages from the respective monthly statements, except in the case of the numbers of branches in Canada and abroad which are as at Dec. 31

Bank Clearings and Bank Debits.—Through the clearing houses, interbank transactions have been recorded since 1889; they form a valuable indication of the trend of business. They, however, do not tell the whole

story, since numerous transactions between persons who carry their accounts in the same bank are not recorded in bank clearings; also, every amalgamation of banks lessens, in so far, the volume of clearings. Again, head office clearings have been effected through the Bank of Canada since Mar. 11, 1935, and this has tended to increase exchanges compared with previous years. For these reasons, a record of cheques debited to accounts at all branches at clearing-house centres is considered to possess greater reliability as a barometer of economic conditions and such a record was instituted in 1924; between that date and 1929 the grand total of bank debits for Canada increased from \$27,157,000,000 to \$46,670,000,000. Since 1929 there was a steady decline to the 1932 levels of \$25,844,000,000, but since then the movement was generally upward, being \$35,929,000,000 in 1936.

Bank Debits at the Clearing-House Centres, by Economic Areas, calendar years 1932-36

Economic Area	1932	1933	1934	1935	1936	
	\$	\$	\$. \$	\$	
Maritime Provinces Quebec Ontario Prairie Provinces British Columbia	11, 258, 872, 279 4, 797, 205, 735	481,013,532 8,567,070,260 13,027,437,905 6,414,353,624 1,491,590,173	9,449,709,866 14,919,504,095 6,337,239,720	13,876,626,476 6,445,395,764	10,938,647,731 15,778,679,837 6,505,518,677	
Totals	25,844,288,293	29,981,465,494	32,866,672,922	31,546,066,341	35,928,606,743	

Insurance

Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States about the middle of the nineteenth century. By 1875 there were at least 26 companies, and possibly several more, competing for the available business in Canada, as against 42 active companies registered by the Dominion and a few provincial companies in 1936. Of the 42 companies registered by the Dominion, 28 were Canadian, 6 British and 8 foreign.



*In 1936, 956 per cent of all Life Insurance in force was underwritten by Dominion Life Companies, 25 per cent by Dominion Fraternal Companies, 06 per cent by Provincial Life Companies and H per cent by Provincial Fraternal Companies.

The development of life insurance in Canada, as in other Englishspeaking countries at least, has been marked by an increased service to the individual policyholder. The benefits which may now be obtained under a life insurance policy are calculated to meet the needs of the policyholder and of his dependants, whether in event of old age or in event of death or of disability. In 1919 there was introduced what is known as "group insurance", a plan whereby a group of persons, usually employees, are insured by their employer, for a uniform amount or a varying amount determined by a formula, under one policy, generally on the term plan, the employer paying the premium or a substantial part thereof. Each employee usually has the right to obtain an individual policy at ordinary normal rates, without medical examination, on termination of employment.

As a result of the adaptation of life insurance policies to the needs of the public, and of the growing wealth of the community, the increase in the amount of life insurance in force has been remarkable. In 1869 the total life insurance in force in Canada, by Dominion companies, was only \$35,680,000 as compared with approximately \$6,407,000,000 at the end of 1936. This latter figure was equal to \$581 per head of population. In addition there was \$169,000,000 of fraternal insurance in force by Dominion licensees and \$128,000,000 of insurance in force by provincial licensees. Thus the total life insurance in force in the Dominion at the end of 1936 was approximately \$6,704,000,000. The premium income from Canadian business of all Dominion registered companies (not including fraternal benefit societies) increased from \$90,000,000 in 1920 to \$221,000,000 in 1930 but decreased to \$200,000,000 in 1935, increasing to \$200,500,000 in 1936.

The following table shows the sales of life insurance month by month in recent years. The statistics are not complete but represent approximately 85 p.c. of the total business transacted in Canada.

Sales of Life Insurance in Canada, by Months, 1935-37

Note.—The figures in this table are those published by the Hartford Research Bureau except that totals for Newfoundland, included therein, have been deducted.

Month	1935	1936	1937	Month	1935	1936	1937
	\$'000	\$'000	\$'000		\$'000	\$'000	\$'000
January February March April May June	31,669 27,265 30,408 27,691 27,042 29,956	33,166 28,673 30,404 28,601 28,189 30,903	30,402 $31,741$ $32,577$	July August September October November December	30,551 25,109 25,340 28,615 31,824 33,300	31, 148 23, 260 25, 913 29, 150 36, 437 33, 883	32,043 27,891 27,214 33,365

Fire Insurance.—Fire insurance in Canada began with the establishment, by British fire insurance companies, of agencies usually situated in the seaports and operated by local merchants. The oldest existing agency of a British company is that of the Phœnix Fire Office of London, now the Phœnix Assurance Co., Ltd., which opened in Montreal in 1804.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is obtainable. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the province of Nova Scotia until 1919, when it was granted a Dominion licence.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1936, shows that at that date there were 269 fire insurance companies doing business in Canada under Dominion licences, of which 50 were Canadian, 68 were British and 151 were foreign companies, whereas in

1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to 79 p.c. of the total number is a very marked point of difference between fire and life insurance in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) in the fire insurance in force, is no doubt partly due to the growth of the practice of insurance; but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. By 1880, companies with Dominion licences had fire insurance in force totalling \$411,564,271; by 1900, the one billion-dollar mark had about been reached and, by 1930, the total stood at \$9,672,997,000. At the end of 1936, besides \$9,248,273,260 of fire insurance in force in companies with Dominion licences, there was also \$1,184,852,046 in force in companies with provincial licences, or about \$10,433,125,306 in force with companies, associations, or underwriters licensed to transact business in Canada.

Miscellaneous Insurance.—Miscellaneous insurance now includes among other classes in Canada: accident (including personal accident, employers' and property liability, and accidental damage to personal property), sickness, falling aircraft, earthquake, automobile, burglary, explosion, forgery, credit, guarantee, hail, inland transportation, aviation, machinery, personal property, plate glass, property, rain, sprinkler-leakage, steam boiler, title, tornado, and live-stock insurance, etc. Whereas, in 1880, 18 companies were licensed for such insurance, in 1936 there were 235 companies, of which 51 were Canadian, 63 British and 121 foreign.

The total net premium income for 1936 was \$29,060,032 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past twenty years; although a decrease had been shown for a few years prior to 1935, there has been an increase in 1935 and 1936. As recently as 1910, the premium income of companies doing an automobile insurance business was only \$80,466; in 1916 it was \$909,503 and in 1936 \$13,510,431. The premium income of personal accident insurance came second with \$3,013,065. Combined accident and sickness insurance was third in 1936 with \$1,845,491. The premium income of all accident and sickness insurance combined totalled \$8,414,326.

Loan, Small Loan and Trust Companies

The principal function of loan companies is the lending of funds on first mortgages on real estate, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies under provincial charters, the majority operate largely in the more prosperous farming communities.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of \$2,110,403 and deposits of \$577,299. Rapid increases in the number of companies and total volume of business resulted from subsequent legislation. In 1899, 102 companies made returns showing capital stock paid up of \$47,337,544, reserve funds of \$9,923,728 and deposits of \$19,466,676; total liabilities had increased from \$3,233,985 to \$148,143,496 between 1867 and 1899. After slight decreases in the number of loan companies in operation through amalgamations and absorptions, shortly after the turn of the century, further growth was recorded. As a result of the revision of the laws relating to loan and trust companies in 1914, statistics of provincially incorporated loan and trust companies ceased to be collected, but of late years these have made voluntary returns so that all-Canadian totals are again available.

There have been incorporated in recent years, by the Parliament of Canada, a number of companies which make small loans, usually not exceeding five hundred dollars each, on the promissory notes of the borrowers additionally secured in most cases by endorsements or chattel mortgages. The figures relating to the three companies of this class which have commenced operations are shown separately below. Prior to 1934 they have been combined with those of the other loan companies.

The paid capital stock of all real estate mortgage loan companies at the end of 1936 was \$37,374,347 (Dominion companies \$19,361,368 and provincial companies \$18,012,979); reserve funds \$25,880,312 (Dominion companies, \$15,270,085 and provincial companies \$10,610,227); liabilities to the public, \$130,566,901 (Dominion companies, \$101,240,172 and provincial companies, \$29,326,729); and liabilities to shareholders, \$65,441,342 (Dominion companies, \$36,005,549 and provincial companies, \$29,435,793).

The paid capital of Dominion small loan companies at the end of 1936 was \$976,750; reserve funds, \$446,658; liabilities to the public, \$2,934,947; liabilities to shareholders, \$1,426,179.

Trust companies act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minors or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy. Some companies receive deposits but the lending of actual trust funds is restricted by law. Trust companies are principally provincial institutions, since their original main functions were connected with probate, which lies within the sole jurisdiction of the provinces.

The aggregate total assets of the trust companies of Canada at the end of 1936 were \$2,777,106,240 as compared with \$805,000,000 in 1922 (the earliest year for which figures are available). The bulk of these assets (\$2,540,164,222 in 1936) was represented by estates, trusts and agency funds. The assets of Dominion companies in 1936 amounted to \$279,442,052 and of provincial companies to \$2,497,664,188.

Canadian Bond Financing.—The declining trend in sales of railway and corporation bond issues, so clearly in evidence for 1933, was reversed in 1934, and showed substantial improvement in 1935 and 1936.

In the latter year, sales under this head were valued at \$335,983,224. Corporation bond financing accounted for \$202,983,224 of this, so that

\$133,000,000 remained for railway issues. As a result of the Dominion Government refunding operations and the increase in railway and corporation issues, the total of bond sales during 1936 was about \$265,568,411 over that of 1935 and \$644,113,483 over 1934.

Canadian investors purchased over 93 p.c. of the total offerings, while in 1935 the corresponding proportion was 84 p.c. The London market handled 0.08 p.c. of the 1936 offerings as compared with 6.71 for New York.

Sales	of	Canadian	Bonds,	1928-36
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	Class of Bonds			Distribution of Sales			
Year Govern- ment and Municipal		Railway and Cor- poration	Sold in Canada	Sold in the United States	Sold in the United Kingdom	Total	
	\$	\$	\$	\$	\$. \$	
1928 1929 1930 1931 1931 1932 1932 1934 1935 1936	120, 113, 088 218, 628, 309 109, 652, 063 1,069,638,571 450, 067, 632 564, 171, 513 564, 558, 132 907, 500, 200 946, 191, 087	442,530,600 357,573,000 181,182,000 23,050,000 5,385,000 73,402,696 109,005,700	278, 080, 088 378, 395, 909 368, 868, 063 1,090,800,571 377, 752, 632 434, 556, 513 529, 630, 828 853, 940, 900 1,194,824,311	60,000,000	19, 109,000 4,745,000 4,100,000 14,350,000 75,000,000 58,330,000 500,000	453,592,088 661,158,909 767,245,063 1,250,820,571 473,117,632 569,556,513 637,960,828 1,016,505,900 1,282,074,311	

Interest Rates.—There does not exist in Canada as yet a market for money in the same sense as in great financial centres such as London and New York. However, since the War, the growing importance of Dominion financing in the domestic market has made it possible to compile a Dominion index of bond yields which is representative of interest rates in Canada. Fluctuations in the Dominion of Canada long-term bond yields for the past 8 years are shown below.

Index Numbers of Dominion of Canada Long-Term Bond Yields, 1930-37

(1926 = 100)

Month	1930	1931	1932	1933	1934	1935	1936	1937
January February March April May June July August September October November December	102·1 101·4 101·1 99·3 98·4 98·2 98·0 95·9 93·9 93·6 93·6	93·9 93·6 91·9 90·0 89·3 88·3 88·3 95·5 105·2 107·7 111·7	112·7 112·2 109·1 109·8 109·3 111·7 107·5 100·5 98·7 96·2 98·5 99·4	96·3 96·0 97·7 96·6 95·0 93·3 93·5 92·2 92·4 93·5 94·3 95·1	93·2 91·0 86·1 83·8 81·8 82·1 80·1 77·2 79·3 77·2 71·3	70·9 73·2 71·4 72·2 71·4 73·4 72·1 71·6 79·8 78·9 74·5 75·5	72·4 70·9 69·5 68·8 66·9 65·1 63·2 65·1 66·2 65·1	64·6 68·4 72·7 73·2 71·0 69·3 69·0 68·1 68·3 69·7 68·8

CHAPTER XVII

LABOUR

Dominion Department of Labour.—The steady growth of industry and labour organization in Canada has been accompanied on an increasing scale by governmental consideration of labour problems. The Dominion Department of Labour was established in 1900. Its duties are to aid in the prevention and settlement of labour disputes, to collect and disseminate information relative to labour conditions, to administer the Government's fair wages policy in regard to wages and hours of labour on government contracts, and, in general, to deal with problems involving the interests of workers. Under the first-mentioned of these functions, the Industrial



Miners having Lunch in the Main Level of an Ontario Gold Mine.

Courtesy, Canadian Government Motion Picture Bureau.

Disputes Investigation Act, enacted in 1907 to promote the settlement of disputes in mines and certain public utility industries, has attracted favourable comment throughout the world. Up to Mar. 31, 1937, 557 threatened disputes had been referred to Boards of Conciliation and Investigation established under its provisions and open breaks had been averted in all but 39 cases. Under a separate statute, entitled the Conciliation and Labour Act, conciliation officers are available to assist in the settlement of labour disputes arising from time to time, and their services have been widely utilized to this end. The administration of the fair wages policy in regard to government building and construction works is carried out

under an Act of Parliament entitled the Fair Wages and Hours of Labour Act, 1935, and, in regard to government contracts for various classes of supplies and equipment, under the provisions of an Order in Council. The monthly Labour Gazette has, since 1900, provided a comprehensive survey of labour conditions in Canada, and is supplemented by various special publications dealing with wages and hours of work, labour organizations, labour laws, etc. The Department also administers the Employment Offices Co-ordination Act, the Technical Education Act, the Government Annuities Act, the Combines Investigation Act, the National Employment Commission Act, and the Dominion relief legislation, and is charged with certain duties arising out of the relations of Canada with the International Labour Organization of the League of Nations.

Provincial Departments of Labour.—Each of the provinces except Alberta and Prince Edward Island has a department or bureau of labour charged with the administration of provincial labour laws. The principal objects of provincial labour legislation in Canada include the regulation of employment conditions in factories, shops and other workplaces, the maintenance of employment offices, the establishment of minimum wages and maximum hours of work, the formulation of collective labour agreements, and the enactment of workmen's compensation laws. Provincial factory and shop legislation embodies the regulation of child labour, hours of work for women and young persons, and provisions for safety and sanitation in the workplace. The provincial employment offices are operated with the assistance of the Employment Service of Canada. Minimum wage legislation applying to both male and female workers has been enacted in all the provinces except Prince Edward Island and is administered by special boards which, in most provinces, are linked with, or form part of, the labour department. In Alberta the minimum wage and maximum hours laws, as well as other labour legislation, are administered by the Department of Trade and Industry. The collective agreements statutes in Alberta, Saskatchewan, Ontario, Quebec, and Nova Scotia (covering only the building trades in Halifax and Dartmouth) provide that any agreement as to wages and hours of labour between a representative number of employers and employees may be extended to the whole industry within the district concerned. Workmen's compensation laws are administered in most of the provinces by independent bodies, but in Alberta the Workmen's Compensation Board administers the Factory Act under the Minister of Trade and Industry and the New Brunswick Board functions similarly under the Minister of Health and Labour.

Occupations of the People*

At the Census of 1931, 3,927,230 persons, out of a population of 10.362,833 in the nine provinces, reported gainful occupations. Males with gainful occupations numbered 3,261,371 and represented $83 \cdot 05$ p.c. of the total, while the number of females was 665,859 or $16 \cdot 95$ p.c. of the total.

The largest single occupation group, so far as males are concerned, was agriculture, with 38 p.c. of the total males in all occupations, although

^{*}Volumes V and VII of the Report of the Seventh Census of Canada, 1931, give details on earnings of wage-earners and on occupations of the people, respectively.

its importance was relatively less in 1931 than at the previous census; manufacturing was second with 12 p.c., if the broad general class "labourers" is disregarded. Females are chiefly found in the services, over 50 p.c. of all occupied females being so reported—18 p.c. in professional service, and 34 p.c. in personal service.

Out of a total number of 3,927,230 persons reporting a gainful occupation at the 1931 Census, 2,570,097 or 65·44 p.c. stated that they were employed on a wage or salary basis; the remainder was composed of (a) employers, (b) persons carrying on a trade or profession on their own account, and (c) unpaid workers, mainly farmers' sons. The number of male "wage-earners" in 1931 was 2,022,260, or 78·68 p.c. of the total of both sexes, while female "wage-earners" numbered 547,837, or 21·32 p.c. of the total. Of these 2,022,260 males, 1,947,957 reported earnings aggregating \$1,804,942,500 for the census year ended June 1, 1931, while the 528,457 females whose earnings were stated earned \$295,610,200 over the same period.

Organized Labour in Canada

Until the middle of the nineteenth century only a small number of independent trade unions, for the most part consisting of workmen of a single craft in one locality, had been formed in Canada. From 1850 to 1870 unionism in Canada was still in the stage of unconcerted action, but during that period its sporadic growth was greatly stimulated by the marked progress of the trade union movement in Great Britain and in the United States. The Dominion's basic trade union legislation, passed in 1872, was patterned closely after the British statutes of the previous year. At the same time the United States was furnishing Canada with the model for the actual machinery of labour organization, and in this period most of the existing Canadian local unions affiliated with the American central organizations of their respective crafts. The Trades and Labour Congress of Canada, the oldest federated labour organization in the Dominion, has been functioning continuously for over half a century as the recognized head and legislative mouthpiece of the internationally organized Canadian workers.

Beginning in 1901 a number of "national" unions, later known as National Catholic Unions, were organized in the province of Quebec, and in 1921 a central organization of these unions, known as the Confederation of Catholic Workers of Canada, was established. The Canadian Federation of Labour, formed in 1902, continued as a separate entity for a quarter of a century; recently it was revived, after having merged for a decade with the All-Canadian Congress of Labour, which has been in existence since 1927.

The total number of organized workers in Canada at the end of 1936 was 322,473, as compared with 280,704 in 1935. International unions had 1,896 branches in the Dominion, with a combined membership of 174,769. Unions operating only in Canada had 990 locals, with a combined membership of 147,704.

Industrial Disputes

During the eleven months (January to November inclusive) of 1937 there were 275 strikes and lockouts which involved 70,300 workers and caused a loss of 904,000 man working days. During the twelve months of

1936 there were 156 disputes, involving 34,812 workers and a time loss of 276,997 working days, and, in 1935, 120 disputes involving 33,269 workers and 284,028 working days. The minimum loss in working days since the record was commenced in 1901 was in 1930, when 91,797 working days were lost in 67 disputes involving 13,768 workers. The maximum loss was in 1919, when 336 disputes involved 148,915 workers and caused a time loss of 3,400,942 working days.

Dominion Unemployment and Agricultural Assistance Measures, 1937

Grants-in-Aid .- Under the provisions of the Unemployment and Agricultural Assistance Act, 1937, the administration of which is vested in the Minister of Labour, the Dominion is continuing throughout the fiscal year 1937-38 to assist the provinces in discharging their responsibilities in connection with the granting of aid to necessitous persons by way of a monthly grant-in-aid. During the first quarter of the fiscal year (April. May, and June, 1937) the amounts of the monthly grants-in-aid to the provinces were: Prince Edward Island, \$2,000; Nova Scotia, \$30,000; Quebec, \$500,000; Ontario, \$600,000; Manitoba, \$175,000; Saskatchewan, \$230,000; Alberta, \$130,000; and British Columbia, \$150,000. As a result of representations made by the province of New Brunswick to the effect. that it had discontinued the granting of material aid, substituting therefor an enlarged works program, the monthly grant-in-aid to that province has been replaced by Dominion contribution towards the cost of the province's relief works expenditures of an additional amount equal to that which would have been paid to the province by way of grant-in-aid had such been necessary. The amounts of the monthly grants-in-aid paid to the provinces of Prince Edward Island, Nova Scotia, Quebec, Ontario, and British Columbia for the second quarter of the fiscal year (July, August and September, 1937) were reduced after consideration had been given to the improved conditions in those provinces, the monthly grant to each of the provinces for the second quarter being: Prince Edward Island. \$1,300; Nova Scotia, \$20,000; Quebec, \$410,000; Ontario, \$480,000; Manitoba, \$175,000; Saskatchewan, \$230,000; Alberta, \$130,000; and British Columbia, \$120,000. The amounts to be paid the provinces by way of monthly grants-in-aid for the third quarter of the fiscal year had not been determined at the date of preparation of this summary, namely, Oct. 1, 1937, but conferences were being held between officials of the provinces and of the Dominion with a view to determining particular needs.

Relief Works.—In addition to the payment of the aforementioned monthly grants-in-aid, agreements with all the provinces have been authorized under the provisions of the Unemployment and Agricultural Assistance Act, 1937, providing for Dominion contribution towards the cost of works, consisting in the main of Trans-Canada Highway and provincial highway works, provincial works, and, in some provinces, municipal works. The Dominion contribution to a province's works program is generally 50 p.c. of the cost.

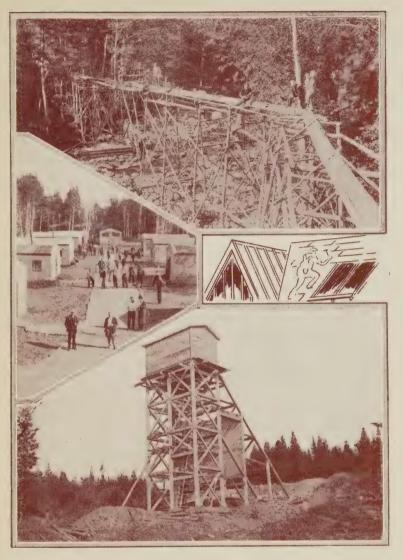
Farm Placements.—The agreements entered into with the provinces of Prince Edward Island, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, and British Columbia under the Unemployment Relief and

Assistance Act, 1936, respecting the placement on farms of unemployed persons who would otherwise be in receipt of aid, necessarily expired on Mar. 31, 1937, together with the legislation under which they were executed. Under the provisions of the Unemployment and Agricultural Assistance Act, 1937, these agreements were, at the request of the provinces, extended to April 30, 1937. At the date of writing, namely, Oct. 1, 1937, agreements with the four western provinces, effective from Oct. 1, 1937, to Mar. 31, 1938, were in course of negotiation, providing for the continuance of the Farm Improvement and Employment Plan along the same lines as provided by the 1936 agreements, that is, payment of \$5 per month to the farmer and payment to the individual placed on the farm of a rate equal at the end of the period to \$7.50 per month. Provision is also made for the purchase of suitable work clothing at a cost not in excess of \$3 for each individual placed, while the necessary costs of transportation of workers from the point of employment to the home of the employing farmer is also to be contributed to by the Dominion under the terms of the agreements. The basis of the Dominion's contribution to the provinces under the provisions of the Farm Improvement and Employment agreements is to be the same as under the 1936 agreements, namely, 50 p.c., the provinces bearing all necessary administration expenses. The largest number of placements during any one month under the 1936 agreements was effected during January, 1937, when 43,915 persons were placed. This number was made up as follows: Quebec, 6,182; Manitoba, 7,980; Saskatchewan, 26,426; Alberta, 3,114; and British Columbia, 213.

Drought Relief.—As the serious drought conditions prevalent during 1936 in certain large agricultural areas of the three Prairie Provinces were still existent at Mar. 31, 1937, the date of the expiration of the agreements entered into under the Unemployment Relief and Assistance Act, 1936, for aid in these areas, provision was made for the extension of the agreements to Aug. 31, 1937. These agreements provide for Dominion contribution of 100 p.c. of the costs, exclusive of administration expenses, incurred by the Prairie Provinces for food, fuel, clothing and necessary shelter, to all permanent residents of the defined areas in need of material aid, excepting those located in cities or towns within the areas. The latter are cared for by the provinces and municipalities, with the assistance of the Dominion grants-in-aid. Provision is made in the agreements that the measure of aid granted pursuant to the arrangement should not exceed that given to similar needy in other rural sections of the provinces. Effective from Sept. 1, 1937, the administration of aid in the drought areas was, in conformity with the recommendations of the National Employment Commission, transferred to the Department of Agriculture in order that the different groups of relief recipients might be segregated, and that agricultural assistance might be distinguished as far as possible from unemployment aid.

Youth Training.—To help meet the situation caused by the volume of unemployment among young people which existed concurrently with an increasing measure of industrial recovery and with a growing demand for skilled workers, Parliament voted to the Department of Labour the sum of \$1,000,000 to be used, during 1937-38, for training and development projects for "unemployed young people" between the ages of 18

YOUTH-TRAINING PROJECTS



Youth Training.—The Government of Canada, through the Department of Labour, is meeting unemployment among young people between 18 and 30 years of age by numerous training and development projects. A few of these are illustrated here. Above: A wooden pipe line in course of construction across a canyon in British Columbia. Centre: A general view of the camp at Duck Mountain Forest Project, Manitoba. Below: A mine-apprentice project in Nova Scotia. The headframe was constructed by youths in training under the supervision of an instructor.

Courtesy, Department of Labour.

and 30. This fund was established to provide for: (a) training projects of an occupational nature devised to increase the skill and employability of young people; (b) industrial 'learnership' courses devised to provide theoretical training concurrent with employment; (c) work projects devised to conserve natural resources, as well as train and recondition the young people participating; and (d) training projects of a physical nature to assist in the maintenance of health and morale. Agreements are being entered into with the provinces covering training projects suitable to their individual conditions. Some of the projects undertaken are as follows: forestry work; training in hard-rock and placer mining; industrial apprenticeship and learnership; practical and technical training in agriculture; women's courses in household work, handicrafts, and other specialized services; and various forms of urban occupational training. Provision has been made in the execution of these projects for vocational guidance, recreation, and instruction in physical education. It is hoped by these means to make available for the primary and secondary industries a more adequate supply of skilled workers, and also to give an opportunity of training to those young people who, having been unemployed for some years, have lost the advantage of their education and the opportunity to acquire industrial skill. The cost of these youthtraining projects is being shared by the Dominion and the provinces on an equal basis, the provinces bearing all expenses of administration.

Relief Settlement.—The Dominion is continuing to assist the provinces of Quebec, Manitoba, and Alberta in placing on the land, under the Relief Settlement Agreements outlined at pp. 169-171 of Canada 1937, selected families who would otherwise be in receipt of material aid. Since the publication of Canada 1937 an agreement has been entered into with the province of Saskatchewan providing for a non-recoverable expenditure of one-third of an amount not to exceed \$1,000 per family for placing selected families on the land and assisting them to become self-supporting. This agreement, which was entered into on June 1, 1937, expires on Mar. 31, 1941. The number of settler families and individuals approved and settled under the various agreements entered into with the provinces since 1932 respecting Relief Settlement are set forth below:—

Number of Settler Families and Individuals Approved and Settled under the Relief Acts' Agreements to Oct. 31, 1937

Province	Settler Families	Total Individuals	Province	Settler Families	Total Individuals
Nova ScotiaQuebec. Ontario	No. 343 1,423 606 1,080	No. 2,154 8,858 2,990 5,251	Saskatchewan Alberta British Columbia	No. 939 720 52	No. 4,604 3,374 285
	-,,,,,	0,201	Totals	5,163	27,516

Dominion Relief Disbursements.—The table on p. 169 sets forth the Dominion's disbursements to Oct. 1, 1937, for assistance provided under relief legislation since 1930.

The summary of loans to the western provinces and the C.P.R. outstanding as at the same date is: Manitoba, \$21,928,044 (inclusive of \$804,897 written down to non-active asset); Saskatchewan, \$56,427,781

(inclusive of \$17,682,158 non-active asset); Alberta, \$25,886,198; British Columbia, \$31,271,716; C.P.R., \$2,447,000; total, \$137,960,739.

Total Disbursements by the Dominion for Assistance Provided under Relief Legislation, 1930-37

Item	1930 Act	1931 Act	1932 Act	1933 Act	1934 Act	1935 Act	1936 Act	1937 Act ¹	Total
						@1000	01000	e2000	\$'000
Disbursements to	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$ 000
Provinces—									
Prince Edward Island.	95	129	25	99	147	287	291	10	1,083
Nova Scotia	834	1,070	580	1,261	574	1,295	1,110	163	6,887
New Brunswick	504	763	220	593	425	1,060	910	0.741	4,475
Quebec	3,292	5,437	4,253	8.297 12.914	6,345 11.045	7,503 $16,208$	10,750 $13,927$	$2,741 \\ 3,240$	48,618 81,114
Ontario	4,692 1,608	11,101 3,348	7,987 1,746	$\frac{12,914}{2.372}$	2,120	3.563	4,390	1,172	20,319
Saskatchewan	1,689	8,225	5,612	2.715	7,6102	7.0973	9,248	3,108	45,304
Alberta	1,281	3,038	1,301	1,572	1,469	1,781	2,572	932	13,946
British Columbia	1,376	3,940	3,228	3,448	2,301	2,283	3,495	810	20,881
Yukon and N.W.T	20	10	3	5	-	10		-	48
Disbursements through		4 500	1 000	P 014	8,393	8,233	127	3	30,056
Dom. Govt. Depts Other Disbursements—	57	4,596	1,033	7,614	8,090	8,400	121	9	30,000
Board of Railway Com-									
missioners	500	500	_	_	-	- :	- 1	-	1,000
C.P.R	864	209	-	-	-		-	-	1,073
C.N.R	882	-	-	_	-	1.0	- 450	100	882
Administration expenses.	43	85	68	87	89	140 21	179	120	811 43
Miscellaneous	-	1	3		- 5	21			45
Totals	17,737	42,452	26,059	40,977	40,523	49,481	47,007	12,304	276,549

¹To Oct. 1, 1937. ²Includes \$5,000,000 advanced to the province for relief in the drought area. ³Includes \$4,000,000 advanced to the province for relief in the drought area.

Employment and Unemployment

Unemployment in Trade Unions.—Monthly statistics are tabulated in the Department of Labour from reports furnished by trade unions showing the unemployment existing among their members. In the first ten months of 1937, 1,834 organizations reported an average membership of 197,735, of whom 20,641 were, on the average, unemployed; this was a percentage of unemployment of 10·4 compared with 13·2, 15·7, and 18·3 for the first ten months of 1936, 1935, and 1934, respectively.

Applications, Vacancies and Placements of the Employment Service of Canada.—Since the Employment Offices Co-ordination Act was passed in 1918 the Dominion Department of Labour, in co-operation with the provinces, has maintained local employment offices in a number of centres throughout the Dominion; the volume of business transacted by these bureaus is regarded as indicative of current labour conditions. Up to Oct. 31, 1937, 584,652 applications for work and 346,561 vacancies were registered at the 69 existing offices, while the placements effected numbered 321,318. In the same period of 1936, 558,446 applications for work, 288,570 vacancies and 268,692 placements were recorded.

National Employment Commission.—During 1937 the Commission continued its effort to obtain unemployment facts through national registration of Dominion aid recipients. By registration the problem has been "broken down" into its various parts, with the result that it can now be viewed in proper perspective. The Commission's anticipations in regard to a rapidly improving level of employment in all branches of industrial life were justified in 1937.

Publication and circulation of the Commission's interim report, and regular issue of a monthly information bulletin have helped to familiarize the public with remedial activities and recommendations. Youth-training projects recommended to the Government took practical form with the granting by Parliament last session of \$1,000,000 for this purpose. These projects are well advanced. The Home Improvement Plan, sponsored by the Commission to stimulate employment in the building trades, has progressed satisfactorily. The Farm Placement Scheme, which proved successful during the winter of 1936-37, is again being put into operation. Negotiations have been undertaken with the provinces designed to produce changes in the system governing grants-in-aid so that moneys appropriated will be directed to specific categories of aid.

The Commission has continued to emphasize the importance of a national employment service, not only as an efficient placement office but as an essential focal point for all phases of employment planning. It is in such a service, assisted as it would be by advisory councils, that youth-training and other plans aimed at re-training and restoring the skill, physique, and morale of those in middle and upper age groups could best be initiated. Attention has repeatedly been drawn by the Commission to the urgent need for such training and rehabilitation plans.

Employment, 1936 and 1937.—The Dominion Bureau of Statistics makes monthly surveys of the employment afforded by employers of fifteen persons or over in the following industries: manufacturing, logging, mining, transportation, communications, construction and maintenance, services and trade; these cover a large proportion of the total working population in Canada. In the first eleven months of 1937, statistics were received from an average of 10,187 firms, whose staffs averaged 1,079,094, compared with returns from 9,682 employers of 973,811 persons in the same period of 1936. Widespread improvement in the employment situation in recent months continues the generally upward movement in evidence since the low point of the depression was reached in 1933. From the 1937 low of 102.8 on Mar. 1, the index (based on the 1926 average as 100), rose to 125.7 at Oct. 1, when the maximum for the year was recorded. The trend was seasonally downward at Nov. 1, 1937, but the index for that month was 20.6 p.c. higher than at the opening of the year, an increase that considerably exceeded the average gain recorded in the first eleven months of the years since 1920. The average for the period, January-November, 1937, stood at 113.4, compared with 103.1 in 1936, an advance of 10 p.c.

Industrial activity during 1937 showed general improvement, both geographically and industrially, the situation being better, on the whole, than in any other year since 1929.

Employment by Economic Areas.—The accompanying table gives monthly indexes of employment in the five economic areas during 1937, with annual averages since 1929. The figures for recent months show a high level of activity in most of the provinces, the exception being the prairie area where the unfavourable crop conditions last season exercised a depressing effect upon the general industrial situation.

Index Numbers of Employment as Reported by Employers, by Economic Areas, as at the first of each month, November, 1936, to November, 1937, with Yearly Averages since 1929.

Note.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated economic area to the total reported by all employers making returns in Canada at Nov. 1, 1937.

Year and Month	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
1929—Averages 1930—Averages 1931—Averages 1932—Averages 1933—Averages 1935—Averages	114·8 118·3 108·1 92·2 85·3 101·0 103·7	113 · 4 110 · 3 100 · 9 85 · 5 82 · 0 91 · 7 95 · 4	123 · 1 114 · 6 101 · 2 88 · 7 84 · 2 101 · 3 103 · 3	126.3 117.1 111.5 90.0 86.2 90.0 95.2	111·5 107·9 95·5 80·5 78·0 90·4 97·7	119·0 113·4 102·5 87·5 83·4 96·0 99·4
1936— Nov. 1 Dec. 1 Averages, 12 mos 1937—	119·4 115·3 109·4	110·3 112·6 100·7	112·8 112·9 106·7	106·0 98·6 99·3	105 · 4 101 · 5 101 · 1	111·0 110·1 103·7
Jan. 1	109·5 107·5 106·6 105·4 110·7	104·0 106·7 102·5 102·2 105·2	107·5 108·4 108·9 108·8 111·2	94·2 91·4 91·3 89·4 93·2 99·3	91·3 89·2 97·5 103·4 112·2	103 · 8 104 · 1 102 · 8 103 · 0 106 · 3 114 · 3
June 1	122·0 135·8 134·3 135·4 134·9	113 · 6 118 · 0 120 · 8 124 · 5 127 · 3	118·8 122·2 122·2 125·0 130·4	104·0 105·6 109·4 107·6 106·2	112.2 117.1 116.9 121.2 117.9 111.5	$ \begin{array}{r} 114.3 \\ 119.1 \\ 120.0 \\ 123.2 \\ 125.7 \\ 125.2 \end{array} $
Nov. 1. Averages, 11 mos. Relative Weight by Economic Areas as at Nov. 1, 1937.	127·3 120·9	130·5 114·1	130·4 ,117·6	99.2	106·7	113.4

Employment by Cities.—Employment in the larger industrial cities, generally, has not yet shown the same degree of recovery as has been indicated in the Dominion as a whole. Nevertheless, activity in Montreal.



Quebec, Toronto, Ottawa, Hamilton, Windsor, Winnipeg, and Vancouver was greater in 1937 than in any of the preceding five or six years. Most industries in these centres shared in the improvement reported in the year just passed, but the advances in manufacturing were especially pronounced, while in most cases, employment in construction continued in less than normal volume.

Employment by Industries.—The upward movement indicated in most of the main industrial groups in recent years continued in evidence during 1937. Employment in manufacturing, logging, mining, services, and trade reached unusually high levels, surpassed in some cases only by those of 1929, when the all-time high was recorded. Improvement over recent years was also recorded in communications, transportation, and construction and maintenance, but the gains in these divisions were not so pronounced as in the first-named industries.

Index Numbers of Employment as Reported by Employers, by Industries, as at the first of each month, November, 1936, to November, 1937, with Yearly Averages since 1929.

Year and Month	Manu- factur- ing	Log- ging	Mining	Com- muni- cations	Trans- porta- tion	Con- struc- tion and Main- tenance	Ser- vice	Trade	All Indus- tries
1929—Averages 1930—Averages 1931—Averages 1932—Averages 1933—Averages 1935—Averages	117-1 108-9 95-3 84-4 80-9 90-2 97-1	125 · 8 108 · 0 60 · 1 42 · 6 66 · 5 124 · 7 126 · 9	120·1 117·8 107·7 99·2 97·5 110·8 123·3	120 · 6 119 · 8 104 · 7 93 · 5 83 · 9 79 · 1 79 · 8	109 · 7 104 · 6 95 · 8 84 · 7 79 · 0 80 · 3 81 · 2	129 · 7 129 · 8 131 · 4 86 · 0 74 · 6 109 · 3 97 · 8	130·3 131·6 124·7 113·6 106·7 115·1 118·2	126·2 127·7 123·6 116·1 112·1 117·9 122·1	119 · 0 113 · 4 102 · 5 87 · 5 83 · 4 96 · 0 99 · 4
1936— Nov. 1	107·7 107·0 103·4	206·9 265·7 138·7	151·8 150·3 136·5	83·1 81·7 81·0	87·1 86·5 84·1	99·6 80·1 88·2	124 · 9 122 · 4 124 · 5	132·0 136·0 127·4	111·0 110·1 103·7
Jan. 1	102·4 105·3 107·6 110·8	242·1 244·4 193·3 132·5	145.6 147.6 145.8 146.0	80·7 79·8 80·8 81·4	81·4 80·7 79·6 79·5	61·2 57·2 52·8 53·7	124·8 119·1 118·9 122·7	136·9 128·4 126·1 127·5	103 · 8 104 · 1 102 · 8 103 · 0
May 1	113 · 8 117 · 9 119 · 0 118 · 1 121 · 2	86.7 109.1 125.0 124.7 143.4	147·4 151·9 153·6 153·7 159·1	82·9 85·6 88·0 89·9	85·1 86·7 89·4 89·1 89·7	71·4 105·2 128·5 139·8 144·5	$125 \cdot 2$ $129 \cdot 0$ $137 \cdot 5$ $141 \cdot 7$ $146 \cdot 6$	128·4 131·5 133·4 132·2 130·9	106·3 114·3 119·1 120·0 123·2
Oct. 1	121·7 119·0 114·3	208·5 306·3 174·2	163 · 9 161 · 1 152 · 3	90·5 88·9 8 5 ·4	90·4 87·2 85·3	144·3 131·7 99·1	135 · 4 131 · 0 130 · 2	133 · 4 137 · 0 131 · 4	125 · 2 125 · 7 125 · 2 113 · 4
at Nov. 1, 1937	50.7	7.4	6.2	2.0	8.8	13 · 1	2 · 4	9 · 4	100.0

¹ See headnote to table on page 171.

Old Age Pensions and Pensions for Blind Persons

The Old Age Pensions Act, 1927.—The Act provides for a Dominion-Provincial system of non-contributory old age pensions in such provinces as have enacted and given effect to special legislation for this purpose. The provinces are charged with the payment of pensions, the Dominion reimbursing each province, quarterly, to the extent of 75 p.c.* of the net

^{*}The proportion to be paid by the Dominion as set forth in the Act of 1927 was one-half, but this was increased at the second session of the Seventeenth Parliament to 75 p.c., which increase was made effective from Nov. 1, 1931.

cost of its payments on account of old age pensions. All the provinces are now operating under such agreements. Payment of pensions in New Brunswick commenced July 1, 1936. The province of Quebec entered into an agreement with the Dominion for payment of pensions commencing Aug. 1, 1936. Old age pensions are also payable in the Northwest Territories. Authority was given to the Gold Commissioner of Yukon in 1927 to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act, but no scheme has as yet been formulated.

The following table gives the contributions by the Dominion Government under the Act, the numbers of pensioners and average pension as at June 30, 1937, and the effective date of legislation in each province:—

Summary Statement of Old Age Pensions in Canada, as at June 30, 1937

Province	Effective Date	Number of Pensioners	Average Monthly Pension	Dominion Government Contribu- tions, April 1 to June 30, 1937	Dominion Government Contribu- tions from Inception of Act
			\$	\$	\$
Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia.	July 1, 1933 Mar. 1, 1934 July 1, 1936 Aug. 1, 1936 Nov. 1, 1929 Sept. 1, 1928 May 1, 1928 Aug. 1, 1929 Sept. 1, 1927 Jan. 25, 1929	1,761 13,537 10,363 37,453 56,358 11,730 11,552 9,278 11,065	10·50 14·56 13·49 18·29 18·25 18·67 16·52 18·21 19·44 18·80	41, 143 ¹ 449, 021 320, 412 2, 597, 525 ² 2, 482, 072 ³ 496, 105 440, 200 375, 778 474, 961 425	5,424,208 1,188,720 4,942,632
Tota's	_	163,103	-	7,677,642	102,551,939

¹Includes adjustment of payment made in previous quarter. ²Includes payments from Aug. 1, 1936, for additional pensions granted during quarter. ³Includes part of March payment

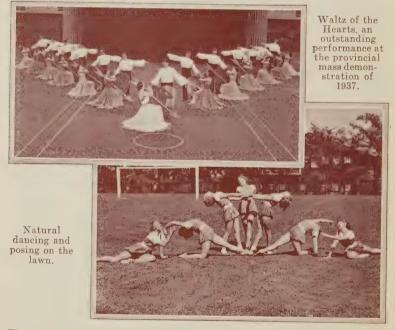
Pensions for Blind Persons.—By an amendment to the Old Age Pensions Act, assented to Mar. 31, 1937, provision is made for the payment of pensions, under certain conditions, to blind persons who have attained the age of forty years. The maximum pension payable to blind persons is \$240 a year which is subject to reduction by the amount of the pensioner's income in excess of \$200 a year in the case of an applicant who is unmarried or is a widower or a widow without a child or children, and by the amount of income in excess of \$400 a year in the case of an applicant who is married or a widower or widow with a child or children. The Act also provides for the payment of a reduced pension to a blind person who marries another blind person subsequent to the date on which the Act came into force.

Pensions for blind persons are administered by the provincial authorities under agreements made by the Lieutenant-Governors of the provinces with the Governor in Council. The Dominion Government assumes responsibility for 75 p.c. of the net sum paid out by the provinces for pensions to blind persons.

CHAPTER XVIII

EDUCATION

Canada's constitution assigns public education, except in the case of the native Indian population, to the jurisdiction of the Provincial Governments. A system of public elementary and secondary education, financed mainly by local school authorities (of which there are about 23,500), but assisted by provincial grants, has developed in each province. Since 1913 the Dominion Government has provided certain grants to the provinces for education, first in aid of agricultural instruction, later technical education, and in 1937 for the training of unemployed youth. Yet, in spite of provincial and Dominion assistance, more than 80 p.c. of the cost of running the schools is met by local school authorities, the source of revenue being almost entirely taxation on real estate.



The British Columbia program of physical and recreational education demonstrates that the æsthetic side is not neglected.

Courtesy, Ian Eisenhardt.

There are some private schools in all provinces, i.e., schools that are not conducted by publicly-elected or publicly-appointed boards, and not financed out of public money, but their enrolment amounts to only about





PUBLIC SCHOOL ACTIVITIES -continued.















Courtesy, Provincial Department of Education of Nova Scotia, Ontario, Saskatchewan and British Columbia.

Interesting Features of Public School Activities in Canada

On Reverse Side.—The three pictures across the top of the double page illustrate one of the ways in which schooling is brought to scattered families in the Canadian north. Six railway cars (left), each moving on regular schedule in a certain area, of Northern Ontario are fitted with classroom (centre) and teacher's living quarters (right). The latest report of the Ontario Department of Education says: "Despite a winter temperature of sometimes 55° below zero, the school cars functioned fully every day with almost 100 p.c. attendance".

The two pictures at right centre show the work of special classes for retarded children in the elementary schools. There are about 6,000 children in these classes in Ontario

and 3,000 in other provinces.

At left centre girls in a rural school of Nova Scotia are shown taking notes on a radio lesson, while the teacher is engaged with a junior class. The other two views of this group were taken on field days at Nova Scotia schools; one shows children dramatizing Canadian history, and the other folk-dancing on the lawn.

The three pictures at the bottom are taken at evening technical classes in diesel engineering, oxyacetylene welding, and radio servicing. About 60,000 adults, including young persons recently out of day school, attend evening classes at the technical schools in Canada.

Left-Hand Page.—At the top of the page, three manual training exhibits in British Columbia are shown—a prize float from a rural school, bird houses with their junior builders, and metal work by a high school class.

The other four pictures are from Saskatchewan: two are from a technical high school—one showing a class in drafting, the other household science practice—and two from a commercial high school showing boys and girls acquiring skill on the adding machine and typewriter.

4 p.c. of the total. In the realm of higher education six provinces have each a provincially-supported university, and the remaining three have each one or more colleges supported by provincial funds, but in most of them there is a considerable number of students in private, endowed, or denominational colleges.

With nine distinct provincial systems of education there are many opportunities for each province to benefit from the educational experience of others. Several Dominion-wide educational associations exist through which it is possible for exchange of experience to take place: the Canadian Education Association, the Canadian Teachers' Federation, the National Conference of Canadian Universities, the Canadian Federation of Home and School Associations, the Canadian Association for Adult Education, etc. The discussions conducted at their recent meetings indicate some of the problems currently receiving most attention in Canadian education.

For several years there has been scarcely a single major meeting that has not given some consideration to the inequality of educational opportunity in different areas, and the wide local variations in the weight of school support resulting from the situation wherein each rural community of a few families is, in most provinces, responsible for the greater part of its school costs. Some communities, it is claimed, are unable to find money with which to keep their schools up to any reasonable minimum standard, even though their school taxes may represent a higher proportion of income than in other communities with the best of school services. The remedy lies in the direction of equalizing school costs over larger areas, regional or provincial; some progress in the formation of larger areas for school finance has been made in Alberta and British Columbia during the past two or three years.

Another problem receiving a good deal of attention is the re-organization of post-elementary instruction that has become necessary as the proportion of young persons remaining in school beyond the elementary years has so conspicuously increased. Space does not permit of an account of the changes that are taking place, but the Annual Survey of Education in Canada, published by the Dominion Bureau of Statistics,* includes a bibliography of Canadian studies in education, and an index of contents of the education periodicals published in Canada; these record the literature to be consulted for the extended study of this and other problems.

A factor that has emphasized the problem of adjustments between elementary and secondary schooling is the decreasing number of younger children. The child population of the country has, for some years, ceased to increase. There are fewer children under the age of ten than in the 10-year group aged 10-19, and this situation has contributed to the relative disproportion in post-elementary schools. It has also contributed to the over-supply of teachers that accumulated in recent years, but has not been, by any means, entirely responsible for it.

Fewer girls left teaching for other positions, or to be married, during the depression years, and former teachers came back to the profession after spending some time at other work. This is reflected in the proportions of male and female teachers; in four years men teachers increased by

^{*} Obtainable from the King's Printer, price 50 cents.

about 3,500 while women teachers decreased by 800. Fewer new teachers have been training since 1933, however, and the surplus is being gradually reduced.

An increasing interest in the newer means of instruction, such as the radio and motion picture, is beginning to characterize Canadian instruction. The Dominion Bureau of Statistics in 1937 canvassed the extent to which these were used in schools, and found that, although they were much less used than in certain other countries, a growing interest is now definitely shown.

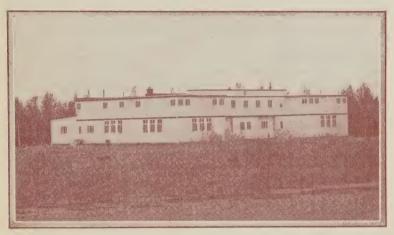
The publicly-controlled schools own altogether about 200 radio receiving sets, and a further 300, owned by teachers, are kept in the schools. City schools alone have about 100 as compared with 11,500 in city schools of the United States. Most of the broadcasting of Departments of Education takes place outside of school hours and is intended particularly to help children taking high school studies in small schools where the teacher's time is mainly occupied with elementary pupils. This is the situation in Manitoba and Saskatchewan. In Nova Scotia the Department of Education broadcasts for reception in the schools. Previously this was undertaken once a week, but has been carried on daily since the fall of 1937. In all of Canada, fourteen city school systems and 100 schools outside of cities receive radio programs regularly in school—a rather small number in comparison with 6,500 listening schools in Great Britain. Phonographs outnumber radios in Canadian schools nearly ten to one; there are about 4,500, and more than 80 p.c. of them are owned by the schools. Both phonographs and radios are relatively much more numerous in the schools of the Prairie Provinces than elsewhere.

Canadian schools own about 260 motion picture projectors, and a further 100, owned mainly by teachers, are used in the schools. Fewer than 200 motion picture projectors in the schools of cities alone are to be compared with more than 10,000 in the city schools of the United States. Allowing for population differences they are about four times as numerous in the United States as in Canada, and in France they are seven or eight times as numerous. Difficulty in obtaining access to a satisfactory supply of films is mentioned by many school authorities as an obstacle to greater use of motion pictures in Canadian schools. To help in overcoming this obstacle, the Departments of Education in Nova Scotia and Quebec are establishing libraries of films for loaning to schools.

Another special service offered by the Departments of Education in six of the nine provinces is correspondence courses for children living in remote areas out of reach of a school. In Saskatchewan more than 6,000 children taking high school studies in small rural schools are helped by correspondence lessons from the Department. Ontario conducts a unique type of school, illustrated on another page, for children in northern areas. The correspondence courses are in some cases followed by children physically handicapped who are unable to attend school. The larger cities in most of the provinces conduct special classes in the ordinary schools for mentally retarded children, and in some cases for children with defective hearing, sight, and other physical handicaps. This side of the educational system is particularly well developed in Ontario, where it has been extended

into rural communities. Children in all provinces who are blind or deaf are educated in special residential schools at provincial expense. Institutions for feeble-minded and delinquent children are also provincially conducted.

Native Indian children are educated in special schools administered by the Dominion Government, at which attendance is compulsory to the age of 16 years. Practically half of the 18,000 Indian children are enrolled in boarding schools operated by church organizations, at which attendance can be more regular and training more thorough than in small day schools. Training for occupations is particularly stressed in the larger schools.



New Anglican Residential School at Aklavik.—This school replaces one that was maintained principally for Eskimo pupils, at Shingle Point on the Arctic Coast, and accommodates white, Eskimo, and Indian children.

Courtesy, Department of Mines and Resources.

Technical and vocational training continues to receive emphasis in most of the larger cities, but three provinces—Manitoba, Nova Scotia, and Prince Edward Island—are still without any day technical schools at the secondary level. There are increasing indications, too, of a conviction among educators that it is not enough to offer technical courses, but that there should be a closer linking together of the schools and industry, with vocational guidance for the young people as they go through school. In the past twenty years Canadian industry has absorbed only the youth who have come of age in eighteen years, and in the past ten years only those who have come of age in nine years. In other words, it has been 10 p.c. short of absorbing the biological supply; this 10 p.c. have remained in the schools. In addition to those staying in school is the further large number who have fallen into idleness between school and their first job, or by reason of having made a mistaken or unfortunate start in employment; these are the young people who will be helped by the youth-training projects being undertaken jointly by the Dominion and Provincial Governments.

At the university level there has been practically no change in total attendance for several years. This is in marked contrast with earlier postwar years when the increase was very rapid. Nearly 3 p.c. of the young people growing up in Canada to-day become graduates of a university—about 4 p.c. of the young men and 1½ p.c. of the young women. The proportion receiving a degree in Arts or Science is nearly double what it was fifteen years ago, but in several of the professions the increases have not kept pace with the increase in population, and in a few the annual number of graduates has definitely fallen. The population is larger per doctor or clergyman now than it was a generation ago, and is nearly double in some provinces what it is in others; the number of veterinaries has actually fallen while live stock has become much more numerous.

Some of the most rapid increases in professional workers have been in the several branches of engineering. Native-born Canadians have met little more than half of the demand for mining, mechanical or electrical engineers, designers, draughtsmen and architects, and only about twothirds of the demand for civil engineers, surveyors, chemists, assayers, and metallurgists. Much the greatest outside source of supply has been the British Isles, while the United States has supplied larger numbers than the continent of Europe. Europe has contributed its greatest proportions to Canadian professionals among clergymen, artists, and musicians, and only in these fields has its contribution exceeded that of the United States. Yet, by racial origins, music and art are two of the most "English" of the professions in Canada, and theology one of the most "French". Journalism is one of the most "British", in the sense that persons of English, Irish, and Scottish origins occupy a considerably greater share of positions in journalism than in other occupations. Considering all the professions together, persons born in the British Isles occupy more than their share of positions, i.e., considerably higher percentages of the total than in other occupations, while the opposite holds for immigrants from Europe. A general survey of the occupational fields for which the universities train was published by the Dominion Bureau of Statistics in 1937 under the title "Supply and Demand in the Professions in Canada".

In the field of adult education notable advances were made in 1936 and 1937. A full-time director was engaged for the Canadian Association for Adult Education, and classes of the Workers' Educational Association, formerly confined to Ontario, were organized in all but two of the other provinces. Attendance at evening classes in technical schools showed considerable gains after falling off in the earlier 1930's. An Adult Education League was formed in Prince Edward Island in close conjunction with the provincial library system, its methods of operation resembling those of the now well-established system of study groups of Nova Scotia centering in St. Francis Xavier University. The same scheme of adult study made substantial beginnings in New Brunswick. The established work of University Extension Departments was maintained and certain new services tried, such as a summer school of rural life in Alberta.

CHAPTER XIX

MISCELLANEOUS STATISTICS

The National Research Council

In Canada the organization of research as a function of Government dates back to the Great War. In 1916, Canada, following the example of Great Britain, established an Honorary Advisory Council for Scientific and Industrial Research. It was not contemplated at that time that this Council should set up laboratories of its own; it was to direct and assist important researches and to act as an agency for promoting collaboration between those already carrying on research in the established laboratories of the several departments of the Dominion and Provincial Governments, in the universities, and in industry.

Even with the limited facilities at its disposal in the earlier years, the Council made a substantial contribution to the development of research in Canada, but it was soon realized that further provision was essential if satisfactory progress was to be made. The matter was repeatedly considered in Parliament and eventually the Research Council Act was passed in 1924; the construction of laboratories followed. The new building was opened in 1932.

The National Research Council to-day consists of 15 members selected for terms of three years from among men prominent in scientific work in Canadian universities or in Canadian industry. The Council is required by statute to meet at least four times annually in Ottawa. There is a President appointed by the Governor in Council for a term of years, who reports directly to the Committee of the Privy Council on Scientific and Industrial Research, of which the Minister of Trade and Commerce is the Chairman. The Council's membership is broadly representative of all parts of Canada and includes persons qualified to speak authoritatively on points of science, industry, business, and finance.

The staff of the Council is grouped in a number of divisions including: Research Information, Biology and Agriculture, Chemistry, Physics and Electrical Engineering, and Mechanical Engineering (including hydraulics and aeronautics).

The Council has also developed a system of assisted researches in order to make use of the facilities for research which exist in a number of Canadian universities. By this means, projects of importance which otherwise could not be undertaken are carried on under the competent direction of members of a university staff.

Encouragement of postgraduate training in scientific research is given chiefly in the graduate schools of Canadian universities through a system of scholarships provided annually by the Council. For the year 1937-38, 47 scholarships were awarded.

Accounts of the several researches in progress in the various divisions of the laboratories at Ottawa and projects, to which financial aid is given, are to be found in the report of its activities issued annually by the Council.

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Public Health, Hospitals and Charitable Institutions

In Canada, generally speaking, the administration of public health activities and the establishment and maintenance of such institutions is in the hands of the various Provincial Governments, under the powers given them in Sec. 92 of the British North America Act of 1867.

Exercising particular jurisdiction over some phases of the general health of the people of the Dominion is the Department of Pensions and National Health of the Dominion Government, while the Dominion Council of Health acts as a clearing house on many important questions. The public health activities of the Dominion Government include the following divisions: Quarantine, Immigration, Leprosy, Marine Hospitals, Sanitary Engineering, Proprietary or Patent Medicine, Laboratory of Hygiene, Food and Drugs.

In classifying the various types of social service in Canada, certain broad and well-established groups manifest themselves. These divisions are: (1) Hospitals, Dispensaries and Out-patient Departments; (2) Mental Hospitals and Institutions for the Feeble-minded and Epileptic; (3) Institutions for the Blind, Deaf and Dumb; (4) Homes for Adults, and Homes for Adults and Children; (5) Orphanages, Child-caring Institution, Day Nurseries, Child-placing Agencies, and voluntary organizations.



The Interior of a Roman Catholic Hospital in the Northwest Territories.

Courtesy, Rt. Rev. Bishop Breynat, Fort Smith, N.W.T.

The most familiar of all public institutions established to administer and foster the general health of the community is the general public hospital common to all cities and towns and prosperous rural communities. Where public hospitals cannot be maintained in remote districts, private

hospitals and maternity homes and Red Cross out-post hospitals or rural clinics in charge of district nurses are established. These services are further supplemented by the work of the Victorian Order of Nurses, a national visiting nursing association with 90 branches in Canada. In 1936 the Victorian Order of Nurses paid 727,400 visits to 82,021 cases, of which 12,309 were obstetrical cases.

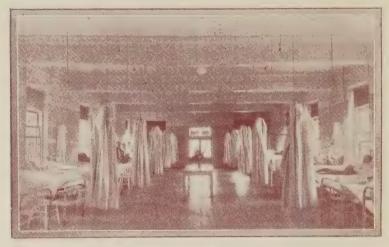
Numbers and Bed Capacities of Hospitals and Charitable Institutions in Canada, by Provinces, 1936

-											
Type of Institut	ion	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta	B.C.	Canada
Population ('000's ted)	omit-	92	537	435	3,096	3,690	711	931	772	750	11,028
Tuberculosis Red Cross Incurable	No. Beds	4 220 1 60 	1,469 64 1 80 1 1 54 	16 1,240 1 20 - - - 3 410 - 1 33 -	52 8,944 5 805 3 3 446 4 744 3 259 8 1,313 - 1 574 5 1,012	110 11,279 4 313 2 2 475 7 675 13 35,254 27 311 7 1,028 1 1 25	33 2,512 - 1 125 2 315 1 50 4 712 - 1 330	74 3,161 104 1 28 1 1 6 - 3 723 6 64 2 165 -	76 3,560 2 125 1 38 3 99 - - 1 215 5 233	68 4,639 55 2 100 - 1 332 1 4 1 170	463 1 37,222 1 18 1,486 11 1,292 1,893 1,893 5,344 36 7,378 34 379 138 2,533 6 1,037
Totals, Public	Beds	280 280	29 2,026	21 1,703	81 14,097	172 17,395	42 4,044	90 4,251	88 4,270	74 5,300	609 ¹ 53,564 ¹
Mental Hospitals.	Beds No. Beds	- - - 1 275	255 4 398 16 2,126	7 96 3 152 1 1,025	33 692 5 414 9 11,469	68 845 7 809 16 13,050	7 69 3 304 4 2,272	63 339 1 56 2 2,600	50 240 5 234 4 2,092	27 324 4 267 4 2,455	259 2,860 32 2,634 57 37,364
_	No. Beds	6 555	53 4,805	32 2,976	128 26,672	263 32,099	56 6,689	156 7,246	147 6,836	109 8,346	957 ¹ 96,422 ¹
CHARITAPLE AND BENEVOLENT INSTITUTIONS	No. Beds	6 411	48 2,8 97	28 1,715	126 19,896	173 10,585	30 1,570	10 430	12 431	21 1,136	454 ² 39,071 ²

¹ Includes 7 hospitals in Yukon and N.W.T. with 198 beds, but does not include 3 hospitals in Que., 1 in Man., and 3 in Yukon and N.W.T. which did not report.

² Does not include 5 institutions which did not report.

There were in operation in Canada in 1936, 900 hospitals for the sick, of which 609 were public, 259 private, and 32 Dominion. Public and private hospitals reported a total of 56,424 set up beds and cribs, 70.5 p.c. of which were occupied during the year. The total personnel of all public and private hospitals was 38,293. During the year 1936, 779,697 adults and children received a total of 14,574,180 days' care, an average stay of 18.6 days; there were 81,730 new-born infants under care for 1,024,415 days, an average stay of 12.5 days. Forty-one hospitals with organized out-patient departments reported 212,377 patients receiving 767,730 treatments; 11 reported treating 107,397 patients but did not report treatment; and 18 reported only treatments (861,388) given.



A Public Surgical Ward in the Vancouver General Hospital.—The hangings will effectively screen the beds, when required. The black bulbs are signal lights operated by a switch at the bed's head; a corresponding signal shows simultaneously in the nurses' office. At the far end is a sun porch accommodating 4 beds. This particular ward holds 30 beds.

Courtesy, Vancouver General Hospital.

Second to general hospitals are the institutions for persons suffering from mental diseases. The public hospitals for the insane, feeble-minded and epileptic are assisted in their care of indigent patients by provincial and municipal grants. In addition there are county and municipal institutions, psychopathic hospitals and a few Dominion and private institutions. The 57 mental hospitals have a normal capacity of 37,364 beds. On Dec. 31, 1936, these institutions reported 39,833 inmates. The total receipts for 1935, including government grants and fees from patients, were \$10,940,797 and the total expenditures \$9,206,970.

Homes or hospitals for incurables provide maintenance, nursing, medical and surgical aid to persons suffering from chronic and incurable diseases and the nature of the services given is such as to call for special reference. Many hospitals for incurables care not only for those suffering from incurable diseases but also for the aged, indigent, feeble-minded and epileptic. There are 18 of these institutions in operation. The average number of patients per day during 1936 was 2,230, the bed capacity 2,533, and the total number under treatment 3,427.

The number of charitable and benevolent institutions in Canada on June 1, 1936, was 459 (454 reported). Of the 459 institutions, 137 were for adults, 88 for adults and children, 118 were orphanages, 95 were children's aid societies, 6 juvenile immigration societies and 15 day nurseries. These institutions had under care on this date 14,681 adults and 33,413 children. The expenditures in connection with these institutions totalled \$9,224,205 and receipts amounted to \$8,860,547. The total number in care during the year 1935 was 65,899.

Royal Canadian Mounted Police

The Royal Canadian Mounted Police is a Dominion Government constabulary. It was organized in 1873 as the North West Mounted Police In 1904, it became known as the Royal North West Mounted Police, and in 1920, the name of the Force was again changed to the Royal Canadian Mounted Police, and to it was assigned the duty of the enforcement of Dominion legislation in the whole of Canada. The former Dominion Police, with headquarters at Ottawa, was absorbed at that time.



The Honourable Vincent Massey, High Commissioner for Canada, Reviewing the R.C.M.P. Coronation Contingent, May, 1937.—Canadians will remember the splendid impression which the "Mounties" made in the Coronation procession.

Courtesy, Royal Canadian Mounted Police.

At the present time, the R.C.M. Police is responsible throughout Canada for the enforcement of the laws against smuggling by land, sea, and air. It enforces the provisions of the Excise Act, is responsible for the suppression of the traffic in narcotic drugs, enforcement of the Migratory Birds Convention Act, and assists the Indian and Immigration Branches of the Department of Mines and Resources, the Fisheries Department and numerous other Dominion departments in executing the provisions of their respective Acts, and in some cases in administrative duties. The Force is responsible for the protection of government buildings and dockyards. It is the sole police force in the Yukon and the Northwest Territories.

The Marine Section of the Force, which, in conjunction with the land force, is engaged in the prevention of smuggling, had, on Mar. 31, 1937, a

strength of 220 officers and men, distributed among twenty-three cruisers and patrol boats on the Atlantic and Pacific coasts and inland waters.

The Force is controlled and administered by a Minister of the Crown (at present the Minister of Justice), and it may be employed anywhere in Canada. From a Force of 300 in 1873, it had a strength on Mar. 31, 1937, of 2,573. Means of transport at the latter date consisted of 209 horses, 512 motor vehicles and 397 sleigh dogs.

Under the R.C.M. Police Act any province may enter into an agreement with the Dominion Government for the services of the Royal Canadian Mounted Police to enforce provincial laws and the Criminal Code upon payment for its services, and at the present time such agreements are in force with the provinces of Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, and Alberta.

The Force is divided into 14 Divisions of varying strength distributed over the entire country. The term of engagement is five years for recruits, with re-enlistment for one year or three years. The officers are commissioned by the Crown. Recruits are trained at Regina, Sask. The course of training covers six months, and consists of drill, both mounted and on foot, physical training, including instruction in wrestling, boxing and jiu-jitsu. Special attention is paid to police duties, both Dominion and provincial, and detailed lectures are given in these, including court procedure. Instructional courses for promotion are held, and, where practicable, an annual refresher course of training is given.

In 1937, a "Reserve" strength of 300 men was authorized by Parliament, and during the months of July and August, 1937, 300 "Reservists" were given training at Fredericton, N.B., Ottawa, Ont., Regina, Sask., Vancouver, B.C., and other points, and in future these "Reservists" will be the principal source from which recruits for the Force will de drawn.

National Defence

Militia.—Canada is organized into 11 military districts, each under a Commander and his District Staff.

The Militia of Canada is classified as active and reserve, and the active is subdivided into permanent and non-permanent forces. The Permanent Force consists of 14 regiments and corps of all arms of the service,



The New Bren · 303-inch Light Machine Gun which has been Approved for Service in the Canadian Militia.

Courtesy, Department of National Defence.

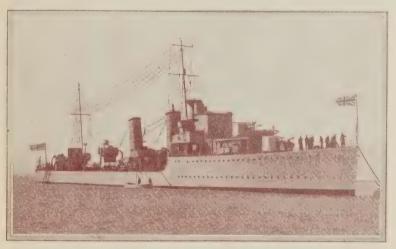
with an authorized establishment limited to 10,000. but at present the strength is about 4,000. The Non-Permanent Active Militia made up of cavalry. artillery, engineer, machinesignalling, infantry, gun, other corps. total establishment of the Canadian Non-Permanent Active Militia totals 7,015 officers and 78,967 other ranks.

The Reserve Militia consists of such units as may be named by the Governor in Council.

All male inhabitants of Canada, of the age of eighteen years and upwards, and under sixty, not exempt or disqualified by law, and being British subjects, are liable to service in the Militia.

The reserve of the Active Militia consists of: (1) reserve regimental depots; (2) corps reserves and corps reserve lists of the Non-Permanent Active Militia; (3) reserve of officers.

The appropriation for the Militia for the year ending Mar. 31, 1938, is \$18,690,928, as compared with an appropriation of \$12,018,926 for 1936-37.



H.M.C.S. Fraser, Commissioned in the Royal Canadian Navy in February, 1937. H.M.C.S. St. Laurent, a sister ship, was commissioned at the same time.

Navy.—The Royal Canadian Navy was established in 1910. The authorized complements are: 117 officers and 1,222 men of the Permanent Force (Royal Canadian Navy); 70 officers and 430 men of the Royal Canadian Naval Reserve; and 97 officers, 19 P.O. instructors, and 1,096 men of the Royal Canadian Naval Volunteer Reserve. Ten appointments of officers of the Royal Canadian Naval Volunteer Reserve are reserved for graduates of the Royal Military College who have had naval training during their Royal Military College course. The vessels at present maintained in commission are: the destroyers Saguenay and St. Laurent, based on Halifax, N.S.; the destroyers Skeena and Fraser* and the minesweeper Armentières, based on Esquimalt, B.C. H.M.C. Dockyards are at Halifax and Esquimalt. Naval depots are maintained at both bases, and are used as training headquarters for the personnel of the R.C.N., R.C.N.R., and the R.C.N.V.R.

The appropriation for naval services for 1937-38 was \$4,486,810.

^{*}On Dec. 1, 1936, the destroyers *Champlain* and *Vancouver* were paid off and dismantled under the provisions of the London Naval Treaty of April 22, 1930. The ships were sold for breaking up.

Air Force.—The Royal Canadian Air Force is classified as active and reserve, the active Air Force being subdivided into permanent and non-permanent. The Force controls and administers all Air Force training and operations, and carries out certain operations on behalf of other Government Departments.

The strength of the Royal Canadian Air Force on Sept. 1, 1937, was: officers (permanent) 166, (non-permanent) 74, (reserve) 166; airmen (permanent) 1,423, (non-permanent) 495; aircraft 165.

The appropriation for the Royal Canadian Air Force (including money for civil government operations) for the year 1937-38 was \$11,752,650. The total flying time for the year 1936-37 was 16,927 hours, 15 minutes.

The appropriation for out-of-pocket expenses incurred by the Royal Canadian Air Force in connection with civil government air operations totalled \$361,000 for the fiscal year 1937-38. This expenditure was mainly for photography, and in the year 1936-37, 30,000 square miles were covered with oblique, and 8,350 square miles with vertical photography.

Administration of Aborigines and Dominion Lands

Indians.—Indians are minors under the law and their affairs are now administered by the Indian Affairs Branch of the Department of Mines and Resources under the authority of the Indian Act. The system of reserves, whereby particular areas of land have been set apart solely for the use of Indians, has been established in Canada from the earliest times. It was designed to protect the Indians from encroachment, and to provide a sort of sanctuary where they could develop unmolested until advancing civilization had made possible their absorption into the general body of the citizens. Reserves have been set aside for the various bands of Indians throughout the Dominion, and the Indians located thereon are under the supervision of the local agents of the Branch. The activities of the Branch, as guardian of the Indians, include the control of Indian education, the care of health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions and the general supervision of their welfare. The local administration of the Indian bands on the reserves is conducted through the Branch's agencies, of which there are well over 100.

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem. Indians who become enfranchised lose the special protection attached to their wardship, so that premature enfranchisement must be avoided.

Eskimos.—The Eskimos of Canada are found principally on the northern fringe of the mainland and on islands in the Arctic Archipelago and in Hudson bay, although in the Baker Lake-Chesterfield Inlet area on the west side of Hudson bay there are bands of Eskimos who are essentially an inland people, and subsist chiefly on caribou. The diet of the coast Eskimos is largely marine mammals and fish, varied at times by caribou obtained from the interior during the seasonal migrations of these animals. The skins of the caribou are used for winter clothing.

The administrative care of Eskimos outside of the organized provinces devolves upon the Lands, Parks and Forests Branch of the Department of Mines and Resources, which, by regulative measures (including the setting aside of game preserves where only natives may hunt), conserves the natural resources necessary to their subsistence. To augment these resources the Branch imported in 1935 a substantial herd of reindeer. Contact with the Eskimos is maintained through permanent stations in the Eastern, Central, and Western Arctic, at a number of which medical



Eskimos Unloading Supplies from the Hudson's Bay Company's Supply Ship, S.S. Nascopi, at Wolstenholme, P.Q.—Advantage is taken of the annual voyage of the Nascopi to relieve personnel and furnish supplies to Government posts in the Eastern Arctic Archipelago. The ship sails as far north as Ellesmere Island for this purpose.

Courtesy, Hudson's Bay Company.

officers are located, and by means of the annual Canadian Eastern Arctic Patrol by steamship. Law and order in all regions in Canada inhabited by Eskimos is maintained by the Royal Canadian Mounted Police.

Northwest Territories.—The Northwest Territories Act (c. 142 R.S.C. 1927) provides for a territorial government composed of the Commissioner of the Northwest Territories, the Deputy Commissioner, and five Councillors appointed by the Governor General in Council. The Commissioner in Council has power to make ordinances for the Government of the Territories under instructions from the Governor General in Council or the Minister of Mines and Resources.

The administration of the various Acts, Ordinances, and Regulations pertaining to the Northwest Territories is supervised by the Director of



Moraine Lake, Glacier National Park.

the Lands. Parks and Forests Branch. Department of Mines and Resources. A Departmental Agent who is also Superintendent of Wood Buffalo National Park. Dominion Lands Agent and Mining Recorder, and Stipendiary

Magistrate for the Mackenzie District is stationed at Fort Smith. A Medical Officer at Aklavik acts as Departmental Agent for the lower Mackenzie and the Western Arctic, and a member of the Royal Canadian Mounted Police at Port Radium is Dominion Lands Agent and Mining Recorder for the Great Bear Lake Mining District. Medical Officers are stationed at Fort Smith, Resolution, Simpson, Good Hope, Aklavik, Port Radium (part time), Chesterfield, and Pangnirtung (Baffin Island).

National Parks.—Among Canada's greatest tourist attractions are her National Parks, areas of outstanding scenic beauty which have been set aside for the use and enjoyment of the people. These national reservations which cover an area of approximately 12,525 square miles differ widely in character and vary in purpose. They conserve the wild life of Canada under natural conditions, preserve in its primitive state the grandeur of our scenic regions and commemorate persons and events of outstanding importance in the nation's history. They may be divided into four groups: the large scenic and recreational parks of the Rockies, Selkirks and the prairies; the smaller recreational parks of Eastern Canada; the wild animal parks; and the national historic parks.

The first group includes Banff, Jasper, and Waterton Lakes Parks in Alberta; Kootenay, Yoho, Glacier, and Mount Revelstoke Parks in British Columbia; Prince Albert Park in Saskatchewan; and Riding Mountain Park in Manitoba. In Ontario there are three smaller recreational parks, Point Pelee, Georgian Bay Islands, and the St. Lawrence Islands Parks. Recent additions to the system of recreational parks are the Cape Breton Highlands Park in Nova Scotia and a shore-line park area on the northern coast of Prince Edward Island.

The wild animal parks are the Buffalo and Elk Island Parks in Alberta, noted for their herds of buffalo, and the Nemiskam and Wawaskesy Parks, also in Alberta, which are sanctuaries for prong-horned antelope. Fort Anne Park in Nova Scotia and Fort Beauséjour in New Brunswick are the outstanding historic parks.

Further information concerning the National Parks of Canada may be obtained from the Lands, Parks and Forests Branch, Department of Mines and Resources, Ottawa, Canada.

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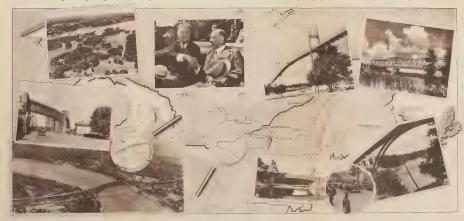
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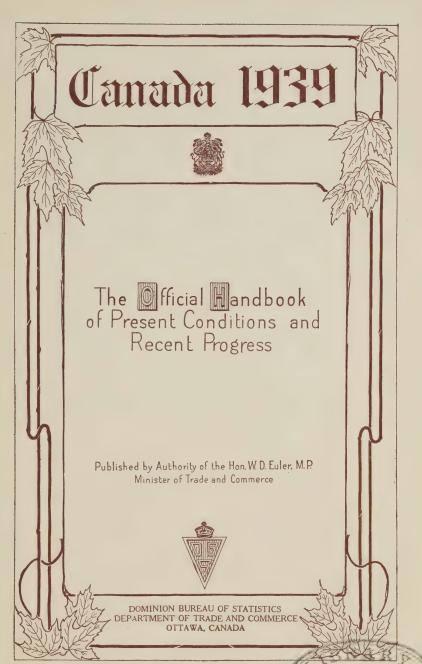
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FOREWORD



HE very substantial increase in the sales of this handbook since the series was placed on an annual basis in 1930, its extensive use by official and semi-official bodies in regular and special editions, its distribution in large numbers at international exhibitions and in different parts of the world

where Canada is officially represented, and its use, by special permission, in financial and commercial houses for distribution to their clients, all attest to the need which exists for a publication giving in brief and readable form the statistical record of the recent progress and present economic condition of the Dominion.

The current reports of the Dominion Bureau of Statistics deal in great detail with the subjects of population, production, external and internal trade, transportation, education, etc., but these detailed publications are intended mainly for those who are specially interested in particular phases of our national life. Again, the Canada Year Book, which summarizes these and other official publications, is of too detailed and expensive a character for wide distribution. The present publication is the result of an effort to survey the current Canadian situation—comprehensively but at the same time succinctly—in a popular and attractive form, and at a cost which makes possible its use on a general scale.

The handbook is designed to serve two purposes. To those outside of Canada, it will give a well-rounded picture of the Canadian situation from Atlantic to Pacific. In Canada itself, it will help to provide a better basis of information for dealing with current problems.

Maler

Minister of Trade and Commerce.

Ottawa, January 1, 1939.

PREFATORY NOTE

This handbook has been prepared in the Dominion Bureau of Statistics from material which has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other branches of the Government Service.

The handbook is planned to cover, in eighteen chapters, the current economic situation in Canada, the weight of emphasis being placed from year to year on those aspects which are currently of most importance, since there is not space to deal adequately with all. The Introduction is a short review of data more fully set out in the succeeding chapters, but brought up to the actual time of going to press. This year the Special Article following the Introduction deals with The Unemployed Youth Problem ---Steps Toward its Solution. This material has been prepared by R. F. Thompson, Supervisor of Youth Training Projects, Department of Labour, and approved by W. M. Dickson, Deputy Minister, Department of Labour, Ottawa.

R. H. COATS,

Dominion Statistician.

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INTRODUCTION

THE ECONOMIC POSITION OF CANADA AT THE CLOSE OF 1938

World Conditions-General Outlook



Hon. William D. Euler, M.P., Minister of Trade and Commerce

The disturbed political conditions of the world in 1938 were mainly responsible for the decline that took place in world production and world trade. The civil war in Spain still dragged on its weary length, while the disturbances in Central Europe and in the Far East created a general feeling of uncertainty as to the future. To these have more recently been added the financial troubles in France and the political rivalries between France and Italy in the Mediterranean area. Since production and trade are always based upon anticipations of future needs, these political factors in the situation tend to diminish men's confidence in the future and thereby operate to limit production and to contract the volume of world exchanges. To these influences was added a pronounced. though recently arrested, decline in prices not unconnected with the political factor and with the economic

policies of the totalitarian nations. Thus the British official index number of wholesale prices, which is perhaps the most representative of world prices generally in view of Great Britain's position as the world's largest importer, declined from 110·6 in October, 1937, to 99·1 in October, 1938, a drop of over 10 p.c. Such a decline is in itself sufficient to account for considerable dislocation in the business and economic world.

The decline in world trade has probably been rather greater than that in world production, and is much more easily measured. According to the statistics of the world trade compiled by the League of Nations, the gold value of the international trade of seventy-six countries in the first nine months of 1938 was \$19,539,000,000 in terms of old gold dollars of the United States as compared with \$22,343,000,000 old gold dollars in the same period of 1937, a decline of \$2,804,000,000 or 12½ p.c. This decrease, it is true, was probably more largely due to declines in prices than to declines in volume, but it is, nevertheless, significant.

It is entirely natural, in the circumstances, that the countries which have a will to peace should be engaged at the present time in tightening

up at least the commercial relations which hold them together and in becoming better neighbours to each other. Thus the tripartite agreement in the monetary sphere has of late been reinforced by the Anglo-American and the Canadian-American trade agreements which go far in the direction of promoting freer trade between the British Commonwealth of Nations and the United States, which between them contain about one-third of the human race. When to these we add France and her possessions, Holland and Belgium and their possessions, the Scandinavian countries, and the Latin-American countries of democratic traditions, we have an enormous bloc of peoples that still believe in democracy, peace, and the development of commerce within the rules of international law and order. It is upon these peoples that the future of the world depends.

For us in Canada, depending as we do so largely upon international trade, it is significant that in the latest fiscal year over 90 p.c. of our imports came from, and nearly 88 p.c. of our exports went, either to British Empire countries or to the United States, and a substantial proportion of the remainder either came from or was dispatched to the other countries mentioned above. Thus we are in a relatively favourable position with regard to the continuance of our trade at high levels, though it must be remembered that disturbances occurring anywhere in the world have a tendency to restrict our trade either directly or indirectly through their influence on the trade of the countries with which we deal. After all, the countries of the world, whether they recognize it or not, are, in matters of trade, dependent on one another.

Provided that the thunder-clouds on the political horizon can be dissipated without war on a larger scale than now exists, it is reasonable to expect on purely economic grounds that 1939 will be a better year for world business and for Canadian business than 1938. The larger crops and the record production of minerals in 1938 have set the stage for a larger supply in 1939 of those commodities which constitute Canada's stock in trade.

In the recovery in world trade which took place in 1936 and 1937, one of the most influential factors was the revival of business in the United States, which stimulated world-wide activity through greatly increased imports. Similarly, in the recession which set in during the latter part of 1937, reduction in the industrial activity and imports of the United States was a key factor. Then the incidence of the decline was extended to the United Kingdom. It is, therefore, reasonable to suppose that the once more rising tempo of industrial operations in the United States, with its 130,000,000 people and high standard of wealth and productivity, will be quickly transmitted to other parts of the world, especially those parts with which it has the most intimate trading relations. In these circumstances the new trade treaties are particularly significant. Economic conditions in Canada are in line to benefit in a two-fold manner. A higher level of prosperity in the United States should be directly reflected in Canada through our enlarged dealings with that country, and indirectly through increased activity in the United Kingdom, the country which stands second in our external trade.

Canada-United States and United Kingdom-United States Trade Agreements, 1938

Two trade agreements, one between Canada and the United States, and the other between the United Kingdom and the United States, were signed simultaneously at Washington on Nov. 17, 1938. These two agreements mark a great forward step in the establishment of better trade relations between the British Commonwealth and the United States; their significance lies in the fact that they are the greatest single advance which has yet been achieved in the new trade-agreements program, which is the United States Government's contribution to the lowering of the barriers to international commerce. The Agreements were the result of protracted give-and-take negotiations in which all the self-governing Dominions were called upon to concur in the temporary modification of certain preferential privileges they have long enjoyed in the British market in order to contribute to the freer flow of trade between the English-speaking peoplesthe world's greatest Empire and its greatest Republic. The extension to all countries with which the parties to the present treaties are on a mostfavoured-nation basis is implied in the agreements. Such preference modifications as the Dominions have agreed to forego are, however, for the term of the agreements with the United States only—a minimum of three years—and are automatically restored as soon as such agreements are terminated.

The Canada-United States Agreement.—Canada secures the benefit of the tariff concessions granted by the United States to the United Kingdom, and to other countries, in the past or in the future. This is a feature of the agreement that will become of increasing importance to Canadian exporters as the United States trade-agreement program develops.

Extent of the Concessions to Canada.—Canada secures concessions on 202 items and sub-items of the United States tariff which cover 83 p.c. of Canadian sales (dutiable and free) to the United States for the year 1937. The maximum reduction in duty which the President of the United States is authorized to apply through the conclusion of trade agreements with other countries under the Trade Agreement Act, is 50 p.c. Canada secures this maximum reduction of 50 p.c. on products imported from Canada in 1937 amounting to 49 p.c. of the total value of dutiable imports for that year, and reductions of between 10 and 40 p.c. on a further 30 p.c. The principal products benefited are lumber and shingles, horses, cattle and dairy products, hog products, potatoes, fish, certain grains, hay, poultry, pulp and paper, metals, non-metallic minerals, ferro-alloys, and many lines of manufactured goods.

Extent of the Concessions by Canada.—Canada's concessions affect 447 items or sub-items of the Canadian tariff. Reductions are made on 283 items or sub-items and duty is fixed at rates hitherto effective on 146 items or sub-items. Imports under these 447 items or sub-items for the fiscal year 1937 amounted to about 58 p.c. of Canada's imports from the United States. Canada further undertakes to remove at the first opportunity the special excise tax of 3 p.c. now levied on the duty-paid value of these 447 commodities under tariffs other than British preferential.

Conditions in Canada

Canadian business in 1938, as compared with 1937, was naturally affected by the reaction in world trade and the decline in the world prices of most primary commodities, though it was better than in any of the years from 1931 to 1936. However, in the past two or three months world prices have approached stability—an indication of better times in 1939.

Agriculture.—Nearly one-third of the people of Canada derive their livelihood directly from the great agricultural industry. It is therefore of great significance that the yield of the field crops of Canada in 1938 is estimated to have been 38 p.c. in excess of that of 1937. The wheat crop in particular, estimated at 348,100,000 bushels, was more than 90 p.c. greater than that of 1937, though its value as at the farm is estimated to have been only \$12,000,000 more, owing to greatly lower prices. Indeed, the total value of the field crops of Canada as on the farm was shown, in the preliminary estimate issued Dec. 9, at \$31,000,000 less than in 1937that is, at \$527,000,000 as compared with \$558,000,000. As against this unsatisfactory situation it is to be remembered, first of all, that, in so far as farm products are consumed on the farm where they are produced, the unit of quantity had in 1938 the same life-sustaining properties as it had in 1937; secondly, that the business of transporting and handling the products which pass off the farm increases with their quantity. The unsatisfactory situation in respect of wheat is due to the fact that the world generally had larger crops than in 1937, the world wheat crop outside of China and Soviet Russia being estimated at 4,393,000,000 bushels or 549,000,000 bushels more than in the preceding year. The size of the world crop of 1938 is in part due to the fact that certain countries are aiming at self-sufficiency in respect of staple foods and are therefore using their control over imports to provide great inducements to their producers to grow such products, these inducements being at the expense of their consuming populations.

Cattle and hog marketings in 1938 were lower than in 1937, while prices were lower for cattle but higher for hogs, owing to short supplies and higher prices in the United Kingdom. The production of butter was at record high levels with lower prices, while cheese production declined. The fruit crops of 1938 were generally satisfactory.

Forestry.—The forestry industries in 1938 were generally depressed in consequence of the decline in demand in our chief external markets. Newsprint in particular was heavily stocked by publishers in 1937, in anticipation of higher prices which did not materialize. The stocks so piled up have now been largely liquidated with resulting improvement in the technical position of the industry. Employment in the primary logging industry was markedly lower last autumn than in the same period of 1937.

Mining.—The mining industry of Canada advanced to a new high peak of production and employment in 1938, the available statistics showing a growth of 3 p.c. in volume of production and of 2 p.c. in employment as compared with 1937. The new gold mined in 1938 had a value of at least \$160,000,000, the highest on record, while the output of copper, lead and zinc also recorded considerable increases and nickel only a slight decline as compared with 1937. Coal output was lower in 1938, but the

production of crude petroleum in the first ten months of the year, at 6,002,000 barrels, was 167 p.c. more than in the same period of 1937.

Fish and Furs.—The catch of the fisheries in 1938 can as yet only be estimated on the basis of the exports, which, however, are a high percentage of the total yield. Exports of fresh and dried fish in the first ten months declined in value about 5 p.c. from the same period of 1937, but it is expected that the trade agreements recently concluded will lead to more prosperous conditions next year.

Exports of furs, which as the raw materials of a luxury trade are subject to decline in periods of economic reaction, were 27 p.c. lower in value in the first ten months of 1938 than in the same period of 1937.

Electricity.—Generation of electric power in Canada in the first ten months was 6·3 p.c. below the record figure of the same period of 1937. In October, however, the decline was only $1\frac{1}{2}$ p.c., indicating a recovery in the latest month for which figures are available. Power made available for ordinary use, computed by deducting secondary power (used for electric boilers) and exports, was only slightly below the 1937 level, being 15,100,000,000 k.w.h., as compared with 15,200,000,000 k.w.h. for the first ten months of 1938 and 1937, respectively.

Manufactures.—Employment in the manufacturing industries in the first ten months was 2.6 p.c. less than in the same period of 1937. Production of the heavier manufactures, however, declined by a considerably greater ratio in the same period. Thus production of pig iron, at 605,000 long tons, and of steel ingots, at 983,000 long tons, were down 17.7 and 17.6 p.c., respectively. The number of automobiles manufactured, at 141,800, was 16.5 p.c. lower, and imports of crude rubber were 29.0 p.c. lower. Flour production, cattle slaughterings and hog slaughterings, were down 4.6, 5.9, and 16.3 p.c., respectively. Releases of cigars and of cigarettes for consumption, however, were up 3.1 and 5.4 p.c., respectively.

Construction.—The value of new construction contracts awarded in the first eleven months of 1938, at \$176,592,000, was $17 \cdot 2$ p.c. less than in the same period of 1937, but was substantially larger than in the same period of 1935 or 1936. In November, however, the new construction contracts at \$15,019,700 were 2 p.c. higher than in November, 1937.

External Trade.—The total merchandise trade of Canada in the twelve months ended October, 1938, was valued at \$1,682,129,000 as compared with \$1,955,226,000 in the preceding twelve-month period, the decline being largely, if not mainly, due to lower prices. Exports of Canadian produce were \$935,079,000 as compared with \$1,144,893,000, or a decline of nearly \$210,000,000, and exports of foreign produce \$43,423,000 as compared with \$16,036,000. Imports for consumption were valued at \$703,627,000 as compared with \$794,297,000. Thus our 'favourable' balance in merchandise trade was \$274,875,000 as against \$366,633,000. Of the \$935,079,000 of Canadian produce exported in the last twelve months for which figures are available, \$464,839,000 or 49.7 p.c. went to Empire countries, which are thus taking practically half our exports.

Internal Retail and Wolesale Trade.—In the early months of 1938 all lines of trade turned downward until May, when purchases by consumers, as revealed by results in twelve lines of business for which figures are available, stood about 4 p.c. below the average for 1937. Since May

there has been a gradual but steady improvement, with the result that cumulative sales for the first ten months of 1938 were only 2 p.c. below the corresponding period of 1937. Decreases from 1937 were most marked in the case of durable merchandise such as furniture and musical instruments, while the number of new motor vehicles sold during the first ten months of 1938 was down 19 p.c. from the corresponding period of 1937.

Declines in wholesale prices and the tendency of retailers to maintain a sound inventory position combined to effect a more pronounced decline in the wholesale trade, dollar value of sales for nine lines of business engaged primarily in the pre-retail distribution of consumers' goods standing 4 p.c. lower for the first ten months of 1938 than for the same period of 1937. Declines from 1937 were most marked in the clothing trades, in which price reductions were also most substantial.

Railway Traffic.—The gross earnings of the C.N.R. (Canadian lines) and the C.P.R. in the first ten months of 1938 were \$129,832,000 and \$117,605,000, respectively, being declines of \$7,169,000 and \$2,343,000, respectively, from the corresponding 1937 figures, or a decline of 3·7 p.c. in the aggregate. Increases on the 1937 movement were recorded in September and October in consequence of the heavy movement of grain. Cars of revenue freight loaded in the first forty-eight weeks of the year were 2,274,000 as compared with 2,457,000 in the same period of 1937, and 2,294,000 in the same period of 1936. Increases over the 1937 figure took place in grain and grain products. in pulpwood, and in ore, while other classifications showed declines.

Canal Traffic.—The heavy movement of Canadian wheat and United States corn through the canals resulted in new high records of traffic through the Welland Ship Canal at 12,450,000 tons and for the St. Lawrence canals at 9,231,000 tons up to the end of November. While 86,000,000 bushels of wheat and 78,000,000 bushels of corn passed through the Welland Canal during the season, declines were recorded in bituminous coal, iron ore, pig iron, iron and steel, automobiles and parts, paper, wood-pulp, pulpwood, rye, and flax seed.

Employment.—Employment in agriculture, judged by the larger crops, was in all probability greater in 1938 than in 1937. Employment in other industries, however, was rather less. The reporting industries employed about 59 persons in the first eleven months of 1938 for every 60 that they employed in 1937. This conclusion is reached from statistics furnished monthly by some 10,800 employers whose staffs averaged 1,067,400 in the first eleven months of 1938. Their index number of employment in 1938 was 111.6 on the eleven-month average as compared with 113.4 in the same period of 1937. However, they employed, in 1938, 8.2 p.c. more workers than in 1936, while the gain over preceding years in the present decade was larger. Indeed, employment in Quebec and in the Prairie Provinces was greater in 1938 than in 1937.

Employment in manufactures during the 1938 period showed a decline of 2.6 p.c. from the same period of 1937; in other words, the manufacturing industries of Canada employed about 39 persons for every 40 that they employed in 1937. Nevertheless there was an increase of nearly 8 p.c. over the eleven-month average recorded in 1936, when the situation was better than in any other year after 1930.

The seven non-manufacturing industrial groups reporting monthly on numbers of employees had a varied experience. Employment in mining in 1938 was the highest on record, while construction and services also reported larger working forces than in either 1937 or 1936. Trade had practically the same number of employees as in 1937, though a higher number than in 1936. On the other hand, logging operations in 1938 were seriously curtailed, and in transportation and communications also, employment averaged rather less than in 1937.

Finance.—The revenue receipts of the Dominion in the first eight months of the present fiscal year were \$358,408,000 as against \$360,331,000 in the same period of the previous year, the large increase in the revenue from income tax nearly offsetting the declines in the customs and excise revenues. Ordinary expenditure was moderately higher at \$263,081,000 as compared with \$257,358,000, and total expenditure was also higher at \$335,456,000 as compared with \$321,764,000. Of special note in the expenditures is the fact that interest payments declined from \$97,539,000 in the 1937 period to \$94,016,000 in the 1938 period as the result of the better terms on which the national debt of Canada is now being financed.

The monthly banking statistics of the country show some significant improvements. Notice deposits in the chartered banks rose from \$1,583,700,000 at the end of October, 1937, to \$1,655,800,000 at the same date of 1938, being an increase of \$72,100,000. In the same period current loans rose from \$769,700,000 to \$848,200,000, or by \$78,500,000. Further, in the past four months from June to October the banks' holdings of securities have declined from \$1,462,100,000 to \$1,408,900,000, indicating that the banks reduced their security holdings in order to obtain the higher rates of interest available on current loans and to finance the movement of the crops. This policy indicates that the bankers are more confident than previously in the future of Canadian business.

Bank debits in the first eleven months of 1938, at \$28,018,000,000, were 12.7 p.c. lower than in the corresponding period of 1937. In October and November, however, bank debits at \$2,976,000,000 and \$2,965,000,000, were slightly larger than those in the same months of the preceding year.

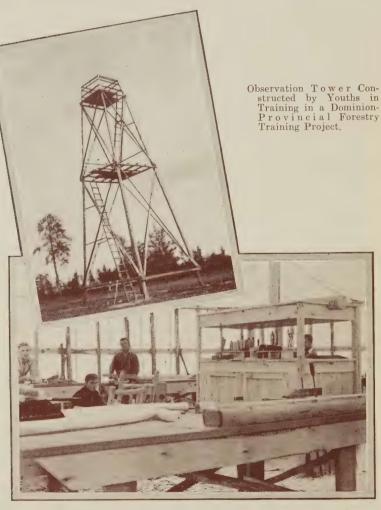
Sales of life insurance by eighteen companies, representing 87 p.c. of the ordinary life insurance in Canada, were approximately \$304,000,000 in the first ten months, a reduction of only 2½ p.c. from 1937.

Corporation dividends paid or declared in 1938 were nearly maintained at \$322,466,000 (preliminary figure), as compared with \$323,727,000 in the preceding year.

Conclusion.—On various grounds Canada may anticipate a rather better year in 1939. Canadian business is likely to benefit this year as the result of the increasing orders from Great Britain for armaments. Again, the great primary industries of Canada—agriculture, forestry, mining, and fishing—are likely to expand in consequence of freer access to the great market of 130,000,000 people lying to the south, where industrial production is, according to last accounts, rapidly expanding. Nevertheless, in a world which is largely dominated by political rather than economic considerations, it is advisable to be cautious in appraisals of the future.

THE UNEMPLOYED YOUTH PROBLEM— STEPS TOWARD ITS SOLUTION

Outline of the Problem and its Effects on Society.—For several years Canada has numbered among the problems that pressed for solution one commonly referred to as "the problem of youth". This problem is in a sense, merely a branch or section of the economic depression which followed 1929. The collapse of 1929 did not, however, create the youth problem.



View of a Wood-working Plant with some Products of the Labour of those in Training.

Courtesy, Youth Training Division, Department of Labour.

It enlarged and gave definite form and decided urgency to something which had previously been rather vague, and overshadowed by general conditions. The problem is not peculiar to this Dominion; in fact, nearly every country in the Western world seems to be confronted with it, at least in some degree. But in Canada certain factors exist that have tended to accentuate the problem.

This Dominion had long been referred to as a land of opportunity. Its great area and vast natural resources combined with a sparse population spelt employment opportunity for those willing and able to work. The young man emerging from school a decade or so ago, felt few qualms as he heard the doors close behind him and faced a new and untried world. He knew there was work to be done. He felt that he would certainly be given the opportunity sooner or later to do his share of it. And so, he was unafraid.

Then came 1929, and a prolonged period of depression. From this gloomy valley the world has been struggling slowly up to more prosperous conditions. The progress has not been continuous; there have been backward slips and the way has been slow and hard; and on no section of society has it been harder than on youth.

For the benefit of statistically minded people who ask "How many young people in Canada are unemployed?", it must be acknowledged with regret that no one knows, but it is known that in the fall of 1936 there were over 67,000 between the ages of 16 and 25 in receipt of relief. Statistics compiled by the Registration Branch of the Department of Labour show that 49,000 fully employable persons aged 16 to 29 years inclusive, were in receipt of relief in June 1938. It is also known that the percentage of unemployed people in that age group who are on relief is smaller than among the older wage-earners as many are members of family units which still have financial resources. For example, the 1936 Quinquennial Census of the Prairie Provinces showed that in the five largest cities, for every young person between 14 and 25 unemployed and on relief, there were 4 who were unemployed and not on relief.

Another factor which has to be reckoned with is the increasing length of dependency for young people, nor is this a new development, though it has been greatly accentuated during the past seven years. Studies made by the Bureau of Statistics and published in a monograph, "Dependency of Youth", show that the young person of 20 to-day has earned much less money than the young person of like age 10 or even 20 years ago. This is due in part to raising the school attendance age, but it is also due to a failure on the part of industry to absorb the annual output of our schools even in normal times and, in face of the conditions since 1930. thousands of young people have stayed on at school because there was nothing else for them to do except walk the streets. As a result there has been a very marked increase in attendance of older pupils and in enrolment at secondary schools. For example, between the years 1929 and 1935 the enrolment in all publicly-controlled schools for 8 provinces increased only 3.2 p.c., whereas the enrolment in secondary schools increased 35.6 p.c. In the Maritime Provinces 10.5 p.c. of the young people of 18 were enrolled at school in 1931 and 15.8 p.c. in 1935. In the Prairie Provinces for the same years the percentages were 12.6 and 17.4.

The average child attended school for 6.58 years in 1911, for 7.58 years in 1921 and for 8.55 years in 1931. Clearly, the two years of added dependence shown by the record of earnings were spent in two years of extra schooling. By analysing the change on a basis of sex, it is found that the extension of the age of dependence has been entirely among boys and young men. Girls have actually increased their earning power in the period, although the position of boys can only be partially attributed to replacement by girls and young women in gainful occupations.



A Group of Young Men in Training at One of the Dominion-Provincial Forestry Camps. Forest training projects are operated in several of the provinces.

Courtesy, Youth Training Division, Department of Labour.

Had lengthened school attendance involved some form of vocational training to fit students for employment when opportunity came their way, it might have been of value. Unfortunately, this was not so in the majority of cases. In the fall of 1936 a questionnaire was sent to some 100 representative secondary schools throughout the Dominion to ascertain what had happened to the students who had left during the past 3 years either by graduation or otherwise, i.e., how many went to other schools, how many were employed or unemployed. About 60 schools replied and it is significant that some 16,000 pupils had left by graduation and over 32,000 before graduation; 25 p.c. of the graduates were employed, 12 p.c. unemployed, 35 p.c. unknown, and 28 p.c. in other schools, whereas of the non-graduates, 19 p.c. were employed, 13 p.c. unemployed, 54 p.c. unknown and 14 p.c. in other schools. Of these 60 schools, only 22 had vocational officers who gave any time at all to placement, only 40 had any contact at all with employers, and only 14 with the Government Employment Service. A special study made in Toronto in the fall of 1936 of some 12,000 pupils who left the city schools that year showed nearly 20 p.c. unemployed and the destination of over 15 p.c. unknown.

School attendance laws of the provinces have, of course, a bearing on

the youth problem. In Alberta, school attendance up to 15 years is required, unless the boy or girl has passed Grade 8, and there is no higher grade in the school district. British Columbia also fixes 15 if the public school course has not been completed. In Manitoba the age is 14, but 15 may be fixed by the district, and 16 if the youth is unemployed. The attendance age is a matter of local option in New Brunswick. In Nova Scotia it is 16 in cities and towns and 14 elsewhere, but districts may fix 14, 15 or 16. The age fixed in Ontario is 16, unless the equivalent of matriculation has been obtained. Prince Edward Island fixes 13 for 60 p.c. of the term, and Saskatchewan 15 unless Grade 8 has been passed. Quebec does not have compulsory school attendance laws.

Lack of adequate juvenile employment service has, no doubt, been a factor in accentuating the gap between the source of youthful labour supply in the schools and its natural outlet in industry. In only two centres in Canada is there special provision for young people, although as already indicated, the need for some such provision has existed over a long period.

One of the definite factors which must be taken into account when considering the youth problem is the trend away from the farm and to the city. A number of causes may have contributed to produce this effect, but, in any event, it is a reality and not something to be brushed aside lightly. Between 1921 and 1931 there was a decline of over 26 p.c. in the number of farm operators under 25 years of age. This decline has continued. In Manitoba where there were 1,568 farm operators aged 24 and under in 1931, there were 1,351 in 1936. Saskatchewan showed a drop from 6.091 in 1931 to 3,903 five years later. The figure of 5,605 in Alberta during 1931 had gone down to 2,613 in 1936. Consequently, a drift from rural to urban occupations, from self-employed to wage-earners, has been going on for many years.

This condition is, of course, not confined to youth. The drift has affected the older age groups also. Statistics show that in 1921 over 38 p.c. of all gainfully employed males in Canada were on the farm. Ten years later this had dropped to 34 p.c. This indicates the general trend which has prevailed.

Along with the conditions noted above, there was developing the anomalous situation of a potential shortage of skilled labour in certain trades, if and when business improved. When times were good, many young people had been unwilling to enter a long-term period of apprenticeship for the initial stages of which wages were low. Moreover, apprenticeship, never as fully developed in Canada as in Great Britain, declined rapidly after the depression commenced. Employers were reluctant to assume the expense of training young workers in view of the uncertainty of employment and general business conditions. Consequently, many private plans of apprenticeship declined or were entirely discontinued. A questionnaire sent out in the winter of 1936 by the National Employment Commission to employers showed that out of over 7,700 firms only 24 p.c. had any such plan. Formal apprenticeship Acts are on the statute books of only Ontario (1928), British Columbia (1935), and Nova Scotia (1937), although some provision for apprenticeship is made by other means, as in the Collective Labour Agreements in Quebec. Since 1929 industry, in its various branches, has lost many of its skilled workers by emigration and by natural wastage and is now giving serious consideration to the provision of an adequate supply of skilled labour to meet future needs. Young people are now ready to take the necessary time to learn a skilled trade for the sake of the greater employment security which such skill affords. But this problem confronts them: "how can they get the opportunity?"—this is especially the case with those who are a little older and cannot enter industrial employment on 'boys' or 'girls' jobs.

The social effects of the conditions outlined above have been to create or increase problems already in existence. For instance, there is the problem of the transient youth, the young fellow who left home because he was becoming a burden, or for some other reason, and has since been a wanderer. Again there is the situation caused by postponement of marriage with a very material increase in the number of illegitimate births. Between 1926 and 1935, these showed an advance of over 43 p.c. for Canada. Further, there is evidence of increased crime among youth, and while there is no measure of the growth of anti-social attitudes that do not come into conflict with the law, it does seem natural that young people who find no economic place for themselves in the society about them, should develop disrespect for it.

Efforts Directed to the Solution of the Problem in Canada.—It was to meet conditions indicated that the National Employment Commission, after careful investigation by its Youth Employment Committee and the Women's Employment Committee, recommended to the Minister of Labour that government action be taken for training and rehabilitating Canadian unemployed youth. This recommendation was accepted and implemented by Parliament in the sessions of 1936-37 and 1937-38.

At the first-named session the Government brought down an estimate of \$1,000,000, to be spent during the fiscal year 1937-38, for training and development projects for unemployed young people. This was approved by Parliament. For 1938-39 the vote was increased to \$1,750,000 at the 1938 session of Parliament. Of this amount \$290,000 was earmarked to pay accounts for the preceding year which were late coming in. The appreciable increase in the Dominion Youth Training vote naturally resulted in a proportionate increase in Dominion allocations to the various provinces. In both years the programs were operated on a fifty-fifty basis, the Dominion contributing one-half of the cost of approved projects. Administration costs were defrayed by the provinces.

The system adopted in the first year of the operation of the program worked successfully and was continued during 1938-39. The provinces were advised by the Dominion Minister of Labour of the amounts allocated to them. With this information available they were in a position to map out the training projects which they considered most effective in treating their varied problems. The provinces sent outlines of their projects to the Labour Department. Here they were embodied in formal agreements. All youth-training undertakings have been governed by the terms of such agreements, which must have approval of both the Dominion Government and the Provincial Government concerned. In each case

it has been provided that any unemployed young man or woman, between the ages of 16 and 30 years, who is in need, may be given youth training, and that selection of young unemployed people who are to participate in the project shall be made by the province subject to Dominion approval. It is expressly stipulated that there must be no discrimination or favour in respect to racial origin, religious views, or political affiliations of those eligible for selection. Preference is to be given to those in greatest need or who have been longest unemployed.

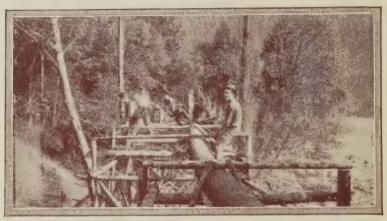
Provision is made for the appointment of special placement officers because it is regarded as of first importance that graduates be absorbed into some form of gainful employment as soon as possible after completing their training. Many of the projects provide for free medical examination for trainees. Board and lodging is also provided in certain cases as well as travelling expenses to and from places where courses are being held. Under certain conditions, pocket-money is provided.

Types of Approved Projects.—Projects submitted by the provinces have followed generally along lines laid down in the first year of operation. As might be expected from the fact that Canada's forest wealth is distributed in nearly all provinces, forestry training projects are general, and provincial authorities have been quick to appreciate the value of youth training in connection with forest conservation. In 1937-38 nearly 2,500 young men participated. From various angles it is beneficial. Young men are put to work at a healthy, clean occupation which takes them into the open and develops them physically. They are taught useful lessons in forest conservation and allied occupations. They learn how to live together under healthy, open-air conditions, because forestry projects are centered in camps established for the purpose and located on or near the scene of operations. On the other hand, the forests of Canada, a great source of wealth to the Dominion, are protected and increased through the work done by trainees under the program. Not only are sources of fire danger removed, but the clearing away of dense undergrowth improves chances of survival and growth to maturity of trees which otherwise would rot and fall early in their lives. Reafforestation projects are also undertaken.

Training in connection with the development of another of Canada's great natural resources—her mines—was prosecuted in 1937-38 in four provinces, with 500 trainees. The provinces in question were Nova Scotia, Quebec, Ontario, and British Columbia. Training courses in mining have proved their value from what is perhaps the most important point of view in connection with the Dominion-Provincial program. They have helped materially in providing employment. It is easy to see that, with the rapid expansion of the mining industry in Canada, a constant and decided demand exists for young men who understand the work and are physically able to stand its hardships.

Provinces differed somewhat in the nature of their training. In both Nova Scotia and Quebec gold mines were operated, trainees receiving their instructions under direction of qualified mining engineers. A nucleus of skilled miners assisted learners to acquire familiarity with the operation of their tools. Ontario again went in for technical training which was

provided at the Haileybury School of Mining. As the course lasted for six months, the number of trainees had necessarily to be limited. In British Columbia training was more general in character, but with special attention to placer mining. Young men were first initiated into methods of prospecting, learned camp routine, cookery, and kindred things, and finally found their way into mines through co-operation of the operators, or were furnished with a 'grubstake' to assist them in prospecting and placer mining.



Placer Mining.—Young men working on a pipe-line which conveys the water supply for placer operations.

Courtesy, Youth Training Division, Department of Labour.

Agricultural training bulked large in connection with the Dominion-Provincial program. Trainees in 1937-38 totalled over 25,000. In some of the provinces a number of young men from urban centres were placed as farm apprentices with experienced farmers. The young men were carefully selected with an eye to their fitness and qualifications for agricultural life. The farmers with whom they were placed agreed to instruct them in various phases of farm work. Short courses in practical agriculture provided further instruction. Particularly in Western Canada, provincial universities played an important part in agricultural instruction. In some cases young men were given special winter agricultural courses at a university. In others, and these were more general, students were trained in various centres in courses lasting from 2 weeks to 3 months. Both men and women were given instruction in a wide variety of subjects with a view to increasing the economic return from their home farm. This instruction varied, in some degree, from province to province, but courses for men included such subjects as farm mechanics, operation and repair of farm machinery, construction of farm buildings, poultry, horticulture, dairying, farm management and accounting, soils and fertilizers, insects and pests, field and animal husbandry, and blacksmithing. Included in the women's courses were: care and management of the home, food and cookery, catering for tourists, hospitality and etiquette, laundering, child care, home nursing and first aid, making and repair of clothing, handicrafts, social customs and courtesies, dairying and poultry, horticulture, and rural home craft. A truly co-operative spirit was manifested, in Western Canada particularly, not only by persons directly interested in the courses, but also by those deriving no specific benefit from them. Schools were held at centres which indicated definitely their desire for them and their willingness to assist in their operation. Instruction in citizenship, rural leadership, and preservation of health, was included in courses for both men and women. These courses were also enlivened by physical training, dramatic presentations, and debating contests.



The Kitchen in a Home Service Training School where Students are taught the Principles of the Preparation and Cooking of Food.

Courtesy, Youth Training Division, Department of Labour.

Courses in occupational training, in commerce and industry, were carried on in cities and towns of several provinces. In some cities instruction was limited to classes held in vocational schools in the day or evening, but in most localities, special centres were opened and furnished with necessary machinery and equipment by the Provincial Government. The teachers were qualified and had practical experience in the trade concerned. A number of such centres were supplied rent free and in a few cases light, heat and water were also free of charge. This was made possible by cooperation of municipal authorities, business firms, and interested individuals. The length of a course varied but was usually of six months' duration, with 30 or 40 hours' instruction each week. The numbers admitted to a

course were largely determined by employment opportunities in order that training should not result in overcrowding trades or in displacement of other workers.

Classes for young men were given in motor mechanics, radio servicing, electricity and house wiring, machine shop, painting, plastering, woodworking and carpentry, diesel engineering, and other trade subjects, and for the young women in business and commercial subjects, dressmaking, power sewing, machine operation, waiting on table, salesmanship, cookery, and other forms of specialized work connected with the home. Advisory committees were set up, representative of educational authorities, employers, organized labour, women's organizations, and youth councils, to assist provincial and municipal authorities in operation of the classes.

In Alberta, the method of urban occupational training was quite different from that of the other provinces. Special centres were established in cities and some larger towns for young men and for young women. Accommodation was supplied free. After personal interviews applicants were admitted to these centres up to the limit of their capacity, and so far as equipment was available, they were permitted to follow their own inclinations in the way of occupation. Under the guidance of instructors, facilities were provided for wood-working, metal working, sign writing, mechanical drawing and drafting, typewriting, business practice, dressmaking, and various forms of handicraft.

A personal canvass was made of employers to obtain co-operation and locate possible vacancies. Following this, trainees who were judged suitable by the staff for the occupation in question were sent out to respective employers, for a few days, as observers only. They were requested to report to the centre on the particular occupation they were observing. If reports from the employer and the centre were favourable, the trainee was then detailed as a learner in the particular occupation. The employer was paid a small weekly sum to reimburse him for the instruction given. If the trainee was found satisfactory he or she was then taken into regular employment and placed on the payroll. After trainees left to work with employers, other young people were taken into the centre to fill the vacancies. In connection with the operation of the urban occupational training project there were special vocational guidance and placement officers to assist trainees in choosing a vocation and to help them in securing employment on completion of their training.

In addition to such urban occupational training to prepare young people for employment, provision has been made for assisting industry to train workers either as apprentices or learners. An apprentice is a young person under contract with an employer to learn a skilled trade. A learner is a young person under training to acquire sufficient dexterity to become a qualified operator in a semi-skilled occupation. This assistance may be given in either of two ways:—

(1) For those trades and occupations where technical class instruction is necessary or desirable, provision is made for the establishment of special classes with instruction in the subjects desired by and at times suitable to the industry concerned. In Ontario these classes last for 13 weeks and during that period the employer pays no wage to the apprentice who receives from the project a weekly allowance in lieu of wages to cover board, car fare and pocket-money.

(2) For those occupations which require training 'on the job' and where technical class instruction is not helpful, the employer gives the instruction in his own establishment and is reimbursed by the project for part of his expense in this connection by the repayment to him of a percentage of the weekly wage he pays the learner, varying according to the complexity of the operation and the length of time required to become proficient. In all cases guarantees are required from the employer that: (a) the engagement of apprentices or learners shall not displace present employees; (b) adequate instruction shall be given in the particular occupation; (c) the apprentice or learner shall be retained in employment as long as work is available and his or her services are satisfactory.

Only a limited number of apprentices are given to an individual employer to prevent overcrowding of occupations.

In the sphere of training for young women, the Home Service Training Schools occupied an important position. Operated in every province of the Dominion, they were successful both in training and in placements effected. The great majority of girls who passed successfully through these courses—usually of three months' duration—found little difficulty in obtaining employment. In a number of the schools the girls lived in the building and received their training from instructors who also resided in the school. Where residential schools were not operated, in a number of cases, practice houses, which could accommodate the trainees in relays, gave the correct home training atmosphere. Where possible, supplementary training was given in a home economics laboratory. Experience proved the most successful method for starting a Home Service Training School was to create a local committee to advise and assist in the establishment and operation of the school. In a great many places local women's committees have been able to arrange for furniture, curtains, blinds, and other necessary appurtenances. Placement officers assisted graduates in obtaining employment, and a follow-up service kept track of them after they were placed.

The importance of physical culture in connection with the Dominion-Provincial Youth Training Program was not lost sight of. While all provinces did not operate special physical training projects, this important branch of instruction found its place in projects which were not primarily designed to develop the physique of trainees. Obviously, certain courses such as forestry, mining training, and agriculture, tended to develop strong and healthy bodies. In other courses a certain amount of time was devoted to physical culture. The province of British Columbia, which already had a well-established system of physical training under its Department of Education, found itself enabled to train over 7,000 necessitous unemployed young men and women through the financial assistance afforded by the program. Alberta is carrying on a project along similar lines in 1938-39.

Conclusion.—As already mentioned, the youth problem has not been confined to Canada. Many other countries have been confronted with it. Their methods of meeting it have varied markedly in line with differing ideologies. A lengthened term of military service or the drafting of young people into labour corps furnishes a solution, possibly temporary in its nature, in some countries. In the United Kingdom special attention has been paid to juveniles by the employment service. During



A Dressmaking Class in one of the Rural Courses (The Pas, Man.).

Courtesy, Youth Training Division, Department of Labour.

recent years the work of advising students on leaving school, and placing them in suitable vacancies, has developed enormously. Surveys of local vocational opportunities have been made and parents are invited to conferences to discuss their children's prospects. For a number of years training and instructional centres have been operated by the Government to train unemployed men for specific occupations or to increase their employability by a more general training.

The United States has created the Civilian Conservation Corps designed to develop and train young men in a variety of projects of an out-of-doors nature. Educational opportunities are provided. Through the National Youth Administration part-time employment has been made available to needy students, and vocational guidance is given.

Canada's Youth Training Program is still in the experimental stage. Admitting that, it has already proved of real benefit. That there is a pressing need for it is obvious. With the experience now gained, and the co-operation and interest of communities across Canada, it should meet with increasing success.

CHAPTER I

WEALTH, PRODUCTION AND INCOME— CAPITAL INVESTMENTS

National Wealth

The economic concept of national wealth is concrete since economics is not able to take cognizance of the immense field of intangible wealth created by churches, schools, and other institutions, nor of such things as climate, location, health, etc., which are often referred to as wealth, but in a different sense from that meant here. The definition includes all our farms, factories, equipment, merchandise in stock, real estate, roads, highways, developed resources, and the thousand and one material things which we as a nation possess.



A Skilled Workman making a Pulper-drum Core.—This will later be used for moulding parts of machines used for cutting beets, turnips, mangolds, etc.

Courtesy, Massey-Harris Company, Limited.

Great difficulty arises when we try to reduce all the things which go to make up this wealth to a common denominator for statistical purposes. National wealth must always be expressed in terms of the national currency. Yet the purchasing power of the currency unit is always fluctuating and, since 1929, had at one point increased by more than 50 p.c. (February, 1933—the lowest point of the depression) in terms of wholesale prices, though there has been definite improvement since then.

The effect of such drastic reductions in prices is first felt by the commodities which are being currently produced. Ultimately a persistent decline affects capital values of real estate, buildings, machinery, etc., and its influence is felt in a reduction in the money value of national wealth.

The first official estimate issued by the Dominion Bureau of Statistics was for 1921, being based on the census data collected in that year. It placed the national wealth at \$22,195,000,000. Later estimates were \$25,673,000,000 for 1925 and \$27,668,000,000 for 1927. The estimate for 1929 was \$31,276,000,000, and the 1933 estimate \$25,768,000,000. The former presents a picture at the peak of domestic prosperity, whereas that of 1933 reflects the writing down of values resulting from the depression. Until values have become stabilized on a post-depression basis, it is not expected that another estimate will be made.

Estimate of the National Wealth of Canada as in 1933

Classification of Wealth	Aggregate Amount	Percent- age of Total	Average Amount per Head of Popu- lation
	s	p.c.	\$
Urban real property (assessed valuations and exempted property and estimate for under-valuation by assessors and for roads, sewers, etc.). Agricultural wealth (farm values and agricultural products in possession). Steam railways (investment in road and equipment). Forests (estimated value of accessible raw materials, pulpwood, and capital invested in woods operations). Central electric stations (capital invested in equipment, materials, etc.). Manufactures (machinery and tools, and estimate for capital in rural lands and buildings). Household furnishings, clothing, etc. (value estimated from production and trade statistics). Mines (capital employed) Trading establishments (estimated value of furniture, fixtures, delivery equipment, and materials on hand). Highways, etc. All other (mainly harbours, automobiles registered, manufacturers materials, telephones, canals, and electric railways).	6,913,530,000 5,563,790,000 3,365,464,000 2,090,821,000 1,309,801,000 949,721,000 913,397,000 800,292,000 708,043,000 689,333,000	26·83 21·59 13·06 8·11 5·08 3·69 3·54 3·10 2·75 2·68	647·27 520·90 315·09 195·75 122·63 88·92 85·52 74·93 66·29 64·54 230·69 2,412·53

¹ Duplication excluded.

Aggregate and Per Capita Wealth by Individual Provinces, 1933.—As regards the provincial distribution of wealth in 1933, Ontario ranked first with an estimated aggregate wealth of \$8,796,000,000 or 34·14 p.c. of the total; Quebec second with \$6,738,000,000 or 26·15 p.c.; Saskatchewan third with \$2,527,000,000 or 9·81 p.c.; and British Columbia fourth with \$2,431,000,000 or 9·43 p.c. of the whole. While Ontario and Quebec led in absolute wealth, the western provinces came first in per capita wealth. British Columbia held first rank with a per capita wealth of \$3,414; Alberta second with \$2,689; and Saskatchewan third with \$2,657.

Production

Under the term 'production' are usually included the activities of agriculture, fishing, mining, forestry, trapping, power development, manufactures, and construction. This does not imply that many other activities such as transportation, merchandising, personal and professional services, are not also 'productive' in a broad economic sense. It is customary, however, to regard the processes involved in the creation of materials or their making over into new forms as constituting production in a special sense. Of this a bird's-eye view is given in the table on p. 5, which shows the gross and net value of production in each of the divisions of industry above mentioned. In a second table on p. 6, a summary of the value of total production in Canada is given by provinces.

A distinction is made between gross and net production. By net production is meant the value left in the producers' hands after the



Hardy Nova Scotia Fishermen, Hubbards, N.S.

Courtesy, Canadian Industries Limited.

elimination of the value of the materials, fuel and purchased electricity, and process supplies consumed in the process of production. This net figure is a much better criterion of the value of an industry than the gross.

After recording successive declines for five years, the net value of production turned upward in 1934 to register a substantial gain over the preceding year. This advance was continued in 1935 and 1936. The net

value of commodities produced in the latter year, as estimated by the Dominion Bureau of Statistics on the basis of data compiled by its various branches, was \$2,665,862,000, compared with a revised estimate of \$2,369,064,000 for 1935. The gain of 12.5 p.c. represents the marked



Primary and Secondary Production of Dairy Products.—Reading downward the layout shows: (1) A group of Ayrshires on a farm at Sardis, Chilliwack district, B.C. (2) An evaporated milk factory, Abbotsford, Fraser valley, B.C. (3) A corner of a laboratory at Vancouver where milk shipped to the fluid-milk market is tested daily,

Courtesy, Fraser Valley Milk Producers' Association.

betterment in productive operations over the preceding year. Each of the nine main branches of production participated in the advances of 1935 and 1936. The greatest absolute gains were recorded in manufacturing and agriculture, but the largest percentage increases were in mining and forestry. Primary production showed a better percentage gain than secondary, indicating a decided revival in the production of raw materials.

Mining continues to be the most progressive of Canadian industries and has extended year by year the upturn commenced in 1933.

While certain changes in method prevent exact comparability with previous years, the net output of agriculture in 1936 was greater than in any other year after 1930. The increase over 1935 was \$72,512,000 or 11.7 p.c., the total reaching \$690,379,000.

The percentage gain in the value of manufacturing was on a par with that in agriculture, the net total advancing 12·1 p.c. or \$138,693,000 over the comparable figure for 1935. Manufacturing continued to be the predominant factor in Canadian production, having assumed a definite precedence over agriculture in net value since 1925. Agricultural production in 1936 represented 26 p.c. of the net output of all branches of industry while the corresponding figure for manufactures, after eliminating duplication, was 39 p.c.

Price and volume indexes indicate that a decided further gain in net production occurred in 1937. The index of wholesale prices averaged 13·4 p.c. higher than in the preceding year, and the gain in the index of industrial production was 11·1 p.c. In the same period, the index of general employment recorded an advance of 10 p.c. The increases in these indexes indicate a general betterment of at least 15 p.c. over 1936.

Summary, by Industries, of the Value of Production in Canada, 1935 and 1936

	19	35	1936		
Industry	Gross	Net	Gross	Net	
	\$	\$	\$	\$	
Agriculture Forestry Fisheries Trapping Mining Electric power	952, 431, 000 341, 432, 372 45, 386, 749 8, 877, 331 411, 094, 583 127, 177, 954	617, 867, 000 198, 545, 244 30, 269, 056 8, 877, 331 238, 581, 268 125, 123, 078	1,079,571,000 400,292,122 51,081,135 9,214,325 497,332,721 135,865,173	690,379,000 231,937,561 34,234,063 9,214,325 291,972,359 133,561,387	
Totals, Primary Production	1,886,399,989	1,219,262,977	2,173,356,476	1,391,298,695	
Construction. Custom and repair. Manufactures.	215,548,873 149,948,104 2,651,325,388	120,815,289 91,711,442 1,150,899,283	258,040,400 158,202,576 3,002,403,814	135,851,162 97,333,712 1,289,592,672	
Totals, Secondary Production	3,016,822,365	1,363,426,014	3,418,646,790	1,522,777,546	
Grand Totals ¹	4,346,117,217	2,369,064,383	4,933,384,625	2,665,861,689	

¹ Excludes duplication in "Manufactures" of items included under primary production.

Relative Production by Provinces.—In 1936, Ontario continued to hold the lead among the nine provinces in the creation of new wealth, producing 44·4 p.c. of the Dominion total, compared with 44·2 p.c. in 1935. Quebec followed with an output of 24·6 p.c. on the revised basis, against 25·4 p.c. in the preceding year. British Columbia and Alberta were in third and fourth places with 8·1 p.c. and 6·2 p.c., respectively. Saskatchewan improved slightly from 5·7 p.c. to 5·8 p.c. Manitoba, Nova Scotia, New Brunswick, and Prince Edward Island followed in order.

The per capita net commodity production of Ontario was nearly \$321 in 1936 compared with \$285 in 1935. British Columbia produced about \$283 for every citizen, while Alberta ranked third with a per capita figure of \$213. Quebec averaged \$212; Manitoba, \$173; Nova Scotia, \$167; Saskatchewan, \$167; New Brunswick, \$146; and Prince Edward Island, \$136.

Summary, by Provinces, of the Value of Production in Canada, 1935 and 1936

Province	195	35	193	6
110711100	Gross	Net1	Gross	Net^1
	\$	\$	\$	\$
Prince Edward Island	19,269,535 145,284,538	11,031,987 82,577,156	21,685,424 156,653,932	12,495,760 89,823,00
New BrunswickQuebec	107,542,475 1,126,333,296	58,946,355 600,775,158	118,176,103 1,263,428,385	63,573,23 656,952,31
Ontario	1,962,942,914 201,426,835	$1,048,129,100 \\ 101,253,414$	2,234,703,431 234,807,096	1,183,844,78 122,874,87
Saskatchewan Alberta British Columbia ²	218, 126, 039 246, 617, 139	134,000,749 153,271,341	256,461,584 263,239,084	155, 439, 051 164, 409, 521
Totals	318,574,446 4,346,117,217	179,079,123 2,369,064,383	384,229,586 4,933,384,625	216,449,140 2,665,861,689

 $^{^1}$ Gross value less cost of materials, process supplies and fuel and purchased electricity consumed in the production process. 2 Including Yukon.

National Income

The statistical measurement of the national income is necessarily a matter of great difficulty, and the most detailed research into the relevant statistics must always leave an appreciable margin of error. Indeed, it is no easy matter even for an individual to establish an accurate money figure as representing his total income, especially where he has to include in that total income, besides his cash income, an allowance for the rental value of his (owned) house and furnishings, together with an allowance for the money value of the commodities produced and consumed within the household (such as eggs and garden produce), and of the services ordinarily bought and sold but rendered gratis within the family circle. Yet this is the only logical way of obtaining the total income of the family. While such income, not received directly in money but in commodities produced and services rendered, is not, except for house and furniture rent, an important percentage of the family income in most urban families, it constitutes a very important part of the income of most

rural families, who, to a much larger extent, consume the commodities which they themselves produce. For this reason, indeed, comparisons between the incomes of urban families and rural families are often misleading, through not allowing for the non-money income of the latter. Certainly most people never think of their non-money income as income at all, and would never consider putting the rental value of their owned homes into their income tax returns. Moreover, the income tax authorities of Canada do not expect them to do so.

The General Statistics Branch of the Bureau is now engaged in an extensive study of the national income covering some thirty industrial groups. The groups are analysed by taking gross receipts and deducting payments to other industries for raw materials, fuel and purchased electricity, depreciation, and miscellaneous expenses. A second method of approach consists in making a summation of payments to individuals in the form of salaries and wages, and other labour income, withdrawals by entrepreneurs, dividends, interest, and rent. When adjustment in the latter method is made for business profits or losses, the result is an estimate of the national income.

In the analysis of some groups, it is possible to apply both methods and account in full for the distribution of receipts.

Incomes Assessed for Income War Tax in Canada.—In those countries of the world where an income tax has been established for a considerable time, the figures of the assessed income have been generally accepted as furnishing a guide both to the amount and to the distribution of the total national income by classes. Estimates of the national income, based upon income tax statistics, have been published, for example, in the United Kingdom and in the United States.

In Canada the income tax is a more recent innovation than in either of the above-mentioned countries; also, in a newer country, incomes are to a greater extent received in kind. Nevertheless, the data collected by the Income Tax Branch of the Department of National Revenue are significant both with regard to the total income assessed and with regard to the distribution of that income among various classes of the population.

In the fiscal year ended 1937, individuals and corporations paid Dominion income tax on 1935 incomes aggregating \$1,080,890,070, so that for that year slightly less than one-third of the national income (estimated as \$3,622,954,000 in 1935) would appear to have been subject to income tax by Dominion authorities.

As regards the amount of income tax paid by various income groups, it is noteworthy that, in 1937, about 33 p.c. of the amount collected from individuals with classified incomes (\$35,500,961) was from those with incomes of \$50,000 or over (such individuals might be considered as in the millionaire class and numbered only 300 out of a total of 217,049 individual taxpayers). The percentage of the gross total receipts contributed by this class in 1936 was approximately the same. On the other hand, individuals with incomes under \$10,000, who numbered 210,115, or about 97 p.c. of the total individual taxpayers in 1937, contributed 26 p.c. of the total for that year, the same percentage contributed by this class in 1936. In the case of

corporations, those with incomes of \$50,000 or over contributed by far the major part (over 85 p.c.) of the total gross receipts (\$58,690,403) from all corporations, but the number of such companies was a very much higher proportion of the total than in the case of individuals.

British and Foreign Capital Invested in Canada

In the opening decades of the century, the marked expansion in Canada was largely based on capital imported from the United Kingdom, at least \$1,500,000,000 being imported during 1900-12. During the War the latent capital resources of Canada itself were for the first time exploited on a large scale, nearly \$2,000,000,000 being raised by the Dominion Government. After the War the outstanding development was the growth of United States investments in Canada. This inflow of capital was not confined to capital coming through the sale of Canadian securities in New York. A substantial part of the flow was the capital invested directly in Canada by United States corporations. Some of this was for the establishment of new industrial enterprises and some was for the development of existing direct investments. These investments in Canada owned in the United States were estimated to have increased to \$4.298,000,000 in 1930. Since then there has been a decline in the value of these investments, the result of the redemption of securities owned in the United States, changes in the value of equities, etc. In comparison, the changes in the value of British investments in Canada are less marked since 1919.

Capital Invested in Canada by Other Countries

Country	19141	19192	19262	19302	19352	19362	1937³
United Kingdom United States Other countries	\$'000.000 2,712 904 178	\$'000,000 2,607 1,800 173	\$'000,000 2,598 3,161 132	\$'000,000 2,766 4,298 132	\$ 000,000 2,729 4,045 124	\$'000.000 2,725 3,985 124	\$'000,000 2,721 3,996 131
Totals	3,794	.4,580	5,891	7,196	6,898	6,834	6,848

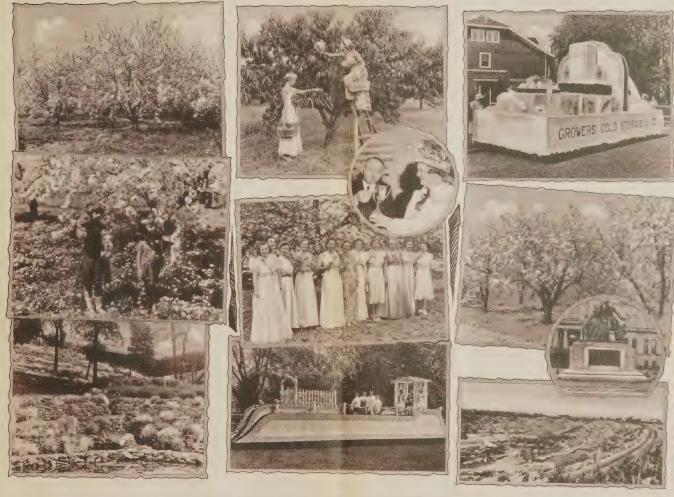
¹ Estimated by various authorities. figures.

In spite of this large external indebtedness, Canadian capital controls a very large proportion of the business capital of enterprises operating in Canada.

In considering these statistics of outside capital invested in Canada, it should also be borne in mind that Canada has large investments in other countries. The Bureau estimates that Canadian investments in other countries amounted to \$1,694,000,000 at the end of 1937. Of this \$1,017,000,000 was invested in the United States, \$53,000,000 in the United Kingdom, and \$624,000,000 in countries other than these. This does not include the assets of Canadian insurance companies held abroad, as there are also liabilities abroad which must be considered in connection with these assets.

² Estimated by D.B. of S. ³ Preliminary

BLOSSON TIME IN THE MAGARA PENINSULA



Left-hand column, reading downwards:—(1) A sweet cherry orchard in bloom at Winona, Nisgara Peninsula. (2) A close-up of an orchard in bloom. (3) The rock garden, Oak Hill Park, St. Catharines, Ontario. St. Catharines is in the heart of the 'Peninsula'. Centre column: (1) Picking peaches at Vineland, Ontario. (2) The entrants in the 1938 Blossom Queen Contest held at Grimsby on May 11. The young lady fourth from the right was chosen Blossom Queen. Inset:—The 1938 Blossom Queen receiving her trophy from the Hon. P. M. Dewan, Minister of Agriculture for Ontario. (3) One of the many floats in the Blossom Time Parado. Right-hand column:—Another typical float in the Parade. (2) Pear trees in bloom at Beamsville, Ontario. (3) A rock garden at Hamilton, Ontario. (3) A rock garden at Hamilton, Ontario.

BEAUTY SPOTS OF CENTRAL AND WESTERN CANADA



Left-hand column, reading downwards:—(1) The beautiful Cadomin River Valley, Alta. (2) Mount Ishbel, Banff National Park, Alta. (3) On the Beaver River near Barnes Ferry, Sask. Inset: Canoeing on Loch Leven, Cypress Hills Provincial Park, Sask. Centre column, reading downwards:—(1) A Fall scene in the Ontario woods around Drummond Lake, Halbiurton county, Ont. (2) Fishing at Virgin Falls, Lake Ripigon, Ont. (3) Aerial view of Niegara Falls showing the Canadian and American sections. Inset: A close-up of the Horseshee Falls. (4) Victoria Beach, Lake Winnipeg, Man. Right-hand column, reading downwards:—(1) Goldstream Canyon at the entrance of the Malahat Scenic Drive near Victoria, B.C. 2. Yachting near Cadboro Bay, Victoria Island. Victoria is the home port of the Royal Victoria Yacht Club. (3) A big timber stand typical of the British Columbia coast forests. Inset: Beautiful Emerald Lake, Yoko National Park, ElC.

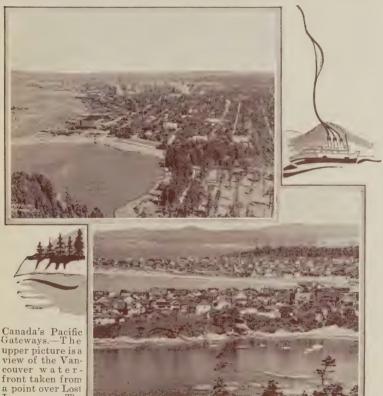
Courtesy, Department of Trade and Industry, Alta.; Bureau of Publication, Regina, Sask.; Travel and Publicity Bureau, Toronto, Ont.; Department of National Defence, Ottawa; Tourist and Convention Bureau of Winnipeg and Maniloba; Victoria and Vancouver Island Publicity Bureau; Canadian Government Motion Picture Bureau; and National Parks of Canadian

CHAPTER II

POPULATION-BIRTHS, DEATHS, AND MARRIAGES

Population

The population of the earth is estimated at approximately 2,000,-000,000.* The British Empire, which covers slightly less than one-quarter of the land area of the earth, has slightly less than one-quarter of the world's population. Canada, which occupies over one-quarter of the area of the British Empire, has only about one forty-eighth of the Empire population. While there is no absolute standard for population density, so



Gateways .- The Lagoon. The lower picture is

of the southern shoreline of Victoria. Both pictures show how these cities are built right down to the sea.

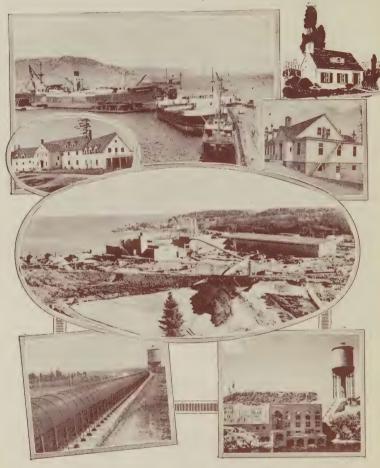
Courtesy, Victoria and Island Publicity Bureau.

much depending on extent of resources, the rate of increase in productivity of land as a result of invention, etc., a certain minimum density is desirable.

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^{*} The Statistical Year Book of the League of Nations, 1937-38, gives the population of the world as 2,115,800,000 not including estimates of certain populations, chiefly in Asia and Africa, where censuses are incomplete or do not exist.

THE BIRTH OF AN INDUSTRIAL CENTRE BAIE COMEAU



As if by Magic, a New Industrial Centre Springs to Life in the Heart of Quebec's Vast Forests.—On June 11, 1938, the Baie Comeau townsite, 200 miles below Quebec and on the north shore of the St. Lawrence, was opened by the Hon. Maurice Duplessis, Premier of Quebec. The Dominion Government was officially represented at the ceremonies. Less than two years earlier, the site was virgin forest land, isolated from civilization, and the development project was a mere idea. To-day a modern paper-mill, with a daily capacity of 350 tons; a townsite equipped with up-to-date sewerage system and water mains, hospital, a staff house (the Manoir Comeau), more than 200 dwelling houses, roads and streets, stores, schools, churches, a picture theatre, and all improvements that go with modern community life has taken its place in the economic scheme. The power plant, which supplies electric power for Baie Comeau, is at Outardes Falls, 13 miles distant. The construction of this plant and of a wood-stave pipe line 6,000 feet long and 17 feet in diameter in conjunction with it, a power-transmission system, and a highway between Outardes and Baie Comeau are accessory to the development.

Courtesy. Foundation Company of Canada, Montreal.

Areas and Populations of the British Empire

Country	Area in Sq. Miles	Population, circa 1931	Officially Estimated Population 19371
British Empire. United Kingdom of Great Britain and N. Ireland. Irish Free State. Canada. Union of South Africa. Australia. New Zealand. Newfoundland and Labrador. India.	471,917 2,974,581 103,415	492, 621, 046 46, 042, 000 2, 957, 000 10, 376, 786 8, 132, 600 6, 629, 839 1, 442, 746 281, 549 351, 399, 880	498,370,000 ² 47,288,000 2,944,000 11,120,000 9,797,000 6,881,848 ³ 1,587,000 294,000 374,200,000 ⁴

¹ Official estimates from various sources. Almanack. ³ 1938 official estimate.

Growth of the Canadian Population, 1871-1931.—The first census after Confederation (1871) saw the Dominion launched with a population of 3,689,257. After 1873, and until the end of the century, economic conditions within the Dominion were anything but buoyant. The Censuses of 1881, 1891 and 1901 reflected this state of affairs. That of 1881 showed a gain of 635,553 or 17·23 p.c., but in neither of the next two decades was this record equalled, the gains in each being under 550,000 or 12 p.c. At the end of the century the population of Canada had reached but 5½ millions, though expectation had set a figure very much higher.

Statistics of Population in Canada, Census Years 1871 to 1931

Province or Territory	1871	1881	1891	1901	1911	1921	1931
Prince Edward Island	94,021	108,891	109,078	103,259	93,728	88,615	88,038
Nova Scotia	387,800	440,572	450,396	459,574	492,338	523,837	512,843
New Brunswick	285,594	321,233	321,263	331, 120	351,889	387,876	408, 213
Quebec	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776	2,360,6652	2,874,255
Ontario	1,620,851	1,926,922	2,114,321	2,182,947	[2, 527, 292]	2,933,662	3,431,683
Manitoba	25,228	62,260	152,506	255, 211	461,394	610, 118	700, 139
Saskatchewan			-	91,279	492,432	757,510	921,785
Alberta	_	-	_	73,022	374,295	588,454	731,605
British Columbia	36,247	49,459	98,173	178,657	392,480	524,582	694,263
Yukon	i 			27,219	8,512	4,157	4,230
N.W.T.1	48,000	56,446	98,967	20, 129	6,507	7,988	9,723
Canada	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643	8,787,949 3	10,376,786

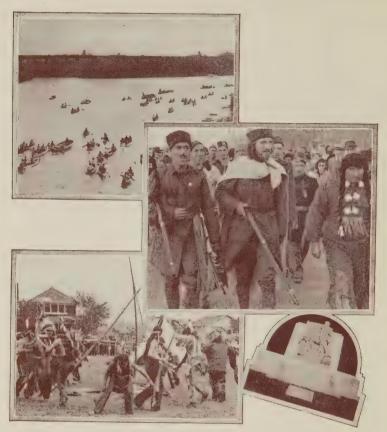
¹ The decreases shown in the population of the Northwest Territories since 1891 are due to the sparation therefrom of vast areas to form Alberta, Saskatchewan, and Yukon and to extend the boundaries of Quebec, Ontario, and Manitoba.

² Revised in accordance with the Labrador Award of the Privy Council, Mar. 1, 1927.

³ Includes 485 members of the R. C. Navy.

The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that decade of any country in the world. In the second decade the rate was 22 p.c., again the greatest with the one exception of Australia, where growth was greater by a fraction of 1 p.c. A century earlier the United States grew 35 p.c. decade by decade until 1860, but with this exception there has been no recorded example of more rapid population growth than that of Canada in the twentieth century. In 1871, only 2.97 p.c. of the population dwelt west of Lake of the Woods. In 1921 the proportion was 28.37 p.c. and in 1931, 29.51 p.c.—3,061,745 compared with 110,000 at Confederation.

² Estimate for 1938 taken from Whitaker's ⁴ Official estimate as at Dec. 31, 1936.



The Bi-Centennial Celebrations of the Discovery of the Site where Winnipeg and St. Boniface now Stand.—It was on Sept. 24, 1738, that La Vérendrye, the discoverer of the Canadian North West, reached the mouth of the Assiniboine river, at the site where Winnipeg and St. Boniface now stand, after descending the Red river. Fur traders and coureurs de bois followed in the path thus blazed by the heroic explorer. During September. 1938. this historic occasion was celebrated. Reading downwards, the layout shows: (1) A view of the canoe parade on the Red river when the scene of La Vérendrye's arrival was re-enacted. (2) La Vérendrye (represented by John Koensjeu) landing on the river bank with his half-breed guide to his left, and a companion. (3) Indian dances, as shown in this picture, had their part in the pageantry. To the right is shown the monument unveiled to the memory of the intrepid explorer.

Courtesy, Rev. A. D'Eschambault, La Vérendrye Bi-centenary Committee, St. Boniface, Man.

Rural and Urban Population.—As regards rural and urban distribution, though Canada is still largely agricultural, town dwellers in 1931, for the first time, exceeded the numbers living upon the land (5,572,058 urban and 4,804,728 rural). Sixty years ago the towns and cities of Canada accounted for only 19.58 p.c. of the people (722,343 urban and 2,966,914

rural), and at the beginning of the present century the percentage was but 37. In 1871 the Dominion had 14 cities, 49 towns and 134 villages; in 1921 there were 101 cities, 461 towns and 881 incorporated villages; and in 1931, 112 cities, 476 towns and 1,017 incorporated villages. It is the larger cities that have grown the fastest. Final figures of the Quinquennial Census of the Prairie Provinces, 1936, shown on page 15, indicate that many of the cities and towns in these provinces have lost thousands of people and so also have the drought-stricken areas. On the other hand, rural areas generally and especially the more northerly sections show increases. Out of every 1,000 persons in the country, 463 were resident, on June 1, 1931, in rural and 537 in urban communities, as compared with 505 in rural and 495 in urban communities on June 1, 1921.

Rural and Urban Populations, by Provinces, 1921 and 1931

Province or Territory	19	021	19	931	Numerical Increase in Decade 1921-31		
	Rural	Urban	Rural	Urban	Rural	Urban	
Manitoba Saskatchewan Alberta British Columbia Yukon Northwest Territories Royal Canadian Navy	263, 432 1,038,096 1,227,030 348,502 528,552 365,550 277,020 2,851 7,988 485		67,653 281,192 279,279 1,060,649 1,335,691 384,170 630,880 453,097 299,524 2,870 9,723	20,385 231,654 128,940 1,813,606 2,095,992 315,969 290,905 278,508 394,7391 1,360	- 1,869 -15,607 15,847 22,553 108,661 35,668 92,328 87,547 22,504 19 1,735	1,292 4,616 4,496 491,037 389,360 54,353 71,947 55,604 147,177	
Canada	4,435,827	4,352,122	4,804,728	5,572,058	368,901	1,219,936	

¹ This includes South Vancouver and Point Grey, with 1921 populations of 32,267 and 13,736, respectively, which were then classified as "rural".

² Members of the Royal Canadian Navy were counted at their homes in the Census of 1931.

Populations of Cities and Towns having over 25,000 Inhabitants Note. —In all cases the populations for previous censuses have been re-arranged as far as possible

to compare with those of the same areas in 1931.

City or Town	Province	Populations						
	Trovince	1891	1901	1911	1921	1931		
Montreal. Toronto Vancouver. Winnipeg. Hamilton Quebec. Ottawa. Calgary. Edmonton. London. Windsor. Verdun. Halifax Regina. Saint John Saskatoon Victoria. Three Rivers. Kitchener Brantford Hull. Sherbrooke. Outremont.	Ontario British Columbia Manitoba Ontario Quebec Ontario Alberta Alberta Ontario Ontario Ontario Ontario Saskatchewan New Brunswick Saskatchewan British Columbia Quebec Ontario Ontario Ontario Ontario Ontario Ontario Ontario Ouebec Ontario Ontario Ontario Ontario Ontario Ouebec Ouebec	181, 215 13, 709 25, 639 48, 959 63, 090 44, 154 3, 876 31, 977 10, 322 296 38, 437 39, 179 16, 841 8, 334 7, 425 12, 753 11, 264 10, 097	328, 172 209, 892 29, 432 42, 340 52, 634 68, 840 59, 928 4, 176 37, 976 112, 153 1, 898 40, 832 2, 249 40, 713 20, 919 9, 981 9, 747 16, 619 13, 993 11, 765 1, 148	490,504 381,833 120,847 136,035 81,969 78,710 87,062 43,704 31,064 46,309 11,629 46,619 30,213 42,511 12,004 31,660 31,660 31,660 31,660 31,660 31,660 41,66	618,506 521,893 163,220 179,087 114,151 95,193 107,843 63,305 58,821 60,959 38,591 25,001 58,372 34,432 47,166 25,739 38,727 22,367 21,763 22,417 24,117 23,515	818,577 631,207 246,593 218,785 155,547 1130,594 126,872 83,761 63,108 60,745 53,209 47,514 43,291 39,082 30,793 30,107 29,433 28,631 28,933 28,633 28,933		

Birthplaces.—The following table gives the birthplaces of the population as shown in the past four decennial censuses:—

Birthplaces of the Population of Canada, 1901, 1911, 1921 and 1931

	Foreign Born					Percentages of Total Population					
	British	Born Born		Total			Foreign Born				
rear	Born	Born ¹	in United States	in other Foreign Countries	tion	Canadian Born	British Born	United States Born	Other Foreign Born		
	No.	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.c.		
1901 1911 1921 1931			374,022	449,052 516,255	5,371,315 7,206,643 8,787,949 10,376,786	77·98 77·75	11.58 12.12	2.38 4.21 4.26 3.32	6·23 -5·87		

¹ Includes some hundreds of persons born at sea.

Sex Distribution.—The population of Canada in 1931 was made up of 5,374,541 males and 5,002,245 females. Thus there were 518 males and 482 females per thousand. The masculinity of the population has increased in the eastern provinces and decreased in the western ones, where it was formerly greatest. A preponderance of males is common in all new countries where immigration has played an important part in building up the population.

Aboriginal Races.—The 1931 figures of population given above include small numbers of the aboriginal races which amount in all to little more than 1 p.c. of the total population. For information regarding administration of the aboriginal races see Chapter XVIII.

Indians.—According to the 1931 Dominion Census, the total number of Indians was 122,911 (62,943 males and 59,968 females) made up by provinces as follows: P.E.I., 233; N.S., 2,191; N.B., 1,685; Que., 12,312; Ont., 30,368; Man., 15,417; Sask., 15,268; Alta., 15,249; B.C., 24,599; Yukon, 1,543; N.W.T., 4,046. The Department of Indian Affairs made a later count of Indians in 1934 and the figure given at that date was 112,510, made up by provinces as follows: P.E.I., 224; N.S., 2,093; N.B., 1,734; Que., 13,281; Ont., 30,631; Man., 12,958; Sask., 11,878; Alta., 10,900; B.C., 23,598; Yukon, 1,359; N.W.T., 3,854.

Eskimos.—According to the Dominion Census of 1931, there were 5,979 Eskimos in Canada, nearly 80 p.c. of these being in the Northwest Territories. The distribution by provinces was: N.W.T., 4,670; Que., 1,159; Yukon, 85; Man., 62; and Alta., 3.

The Quinquennal Census of the Prairie Provinces, 1936.—During the quinquennial period 1931-36 agriculture, the basic industry of the Prairie Provinces, was in a depressed condition and large areas of southwestern Manitoba, southern Saskatchewan, and southeastern Alberta were very seriously affected by drought. This condition has been reflected in a movement of rural population from southern Saskatchewan to the northern part of the arable belt in that province and a pronounced movement to the northern agricultural areas of Alberta. In all three provinces the proportion of urban population has declined, but rural population has increased in spite of the conditions of hardship and privation.

Population	of the	Prairie	Provinces	Cancus	Veare 1911	36
i obulation	oi the	rrairie	r rovinces.	Census	lears 1311"	.20

Item	1911	1916	1921	1926	1931	1936
Manitoba Saskatchewan Alberta		647,835	757,510	820,738		931,547
Totals	1,328,121	1,698,137	1,956,082	2,067,393	2,353,529	2,415,545
Totals, Rural				1,312,155 755,238		

As already mentioned, the urban population of the Prairie Provinces has generally decreased during the period 1931-36. In the ten cities tabulated below, increases are shown in but four cases, and only in the cases of Edmonton and Prince Albert are these significant.

Populations of Ten Cities in the Prairie Provinces, 1931 and 1936

City	1931	1936	City	1931	1936
Brandon. Calgary. Edmonton Lethbridge Moose Jaw	83,761 79,197 13,489	83,407 85,774 13,523	Prince Albert. Regina. St. Boniface. Saskatoon. Winnipeg.	53,209 16,305 43,291	11,049 53,354 16,275 41,734 215,814

Estimated Populations.—Annual figures of population are required for many purposes such as the calculation of birth, death, and marriage rates and of per capita figures of production, trade, and finance. The Dominion Bureau of Statistics estimates such figures for intercensal years and the following table gives such estimates for years since 1931.

Estimated Populations of Canada for Intercensal Years since 1931

Province	1932	1933	1934	1935	1936	1937	1938
	'30.)	'000	'000	'000	'000	'000	,000
Prince Edward Island	83	89	89	89	92	93	94
Nova Scotia	519	522	525	527	537	542	548
New Brunswick	413	420	425	429	435	440	445
Quebec	2.910	2,970	3.018	3.062	3.096	3.135	3.172
Ontario	3.475	3.564	3,629	3,673	3,689	3,711	3,731
Manitoba	709	710	711	711	711	717	720
Saskatchewan	933	932	932	931	931	939	941
Alberta	740	748	756	764	773	778	783
British Columbia	704	712	725	735	750	751	761
Yukon	4	4	4	4	4	4	4
Northwest Territories	10	10	10	10	10	10	10
Canada	10,506	10,681	10,824	10,935	11,028	11,120	11,209

Immigration.—Total immigrants into Canada during the fiscal year 1938 numbered 15,645 as compared with 12,023 in 1937 and 11,103 in 1936.

English, Scottish, Irish, and Welsh from overseas numbered 2,972 as compared with 2,264 and 2,049 in 1937 and 1936, respectively; immigrants from the United States totalled 5,643 in 1938 as compared with 5,113 and 5,121, respectively, for the two previous years; from other countries the number was 7,030 as compared with 4,646 and 3,933.

A movement not included in the immigration statistics is that of 'returned Canadians'. Such departmental figures were first tabulated in the fiscal year 1924-25 and concern Canadian citizens who left Canada to reside in the United States and subsequently returned to Canada declaring their intention of resuming permanent residence in the Dominion. These Canadian citizens are divided into three groups: (a) Canadian born; (b) British born (outside of Canada); (c) persons naturalized in Canada. The total for 1937-38 was 5,209 as compared with 5,064 in 1936-37.

Although tourists entering Canada are not immigrants, their admission calls for an immigration examination on the International Boundary and at ocean ports. The number of entries in this class increased from 20,898,000 for 1933-34 to 31,227,000 for 1937-38—a total much more than twice the population of the whole Dominion.

Vital Statistics

Canada has a national system of vital statistics, organized under the Bureau of Statistics and the Registrars-General of the several provinces, dating from 1920. The figures of births, deaths, and marriages for 1937 with rates for 1926 and 1937 are given, by provinces, in the following table.

Births, Deaths, and Marriages in Canada, by Provinces

		Births			Deaths		Marriages			
Province	19371		1926	19371		1926	19371		1926	
	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M	
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia. Canada ²	2,085 11,524 10,566 75,635 61,596 12,888 18,614 15,847 11,233	22·4 21·3 24·0 24·1 16·6 18·0 19·8 20·4 15·0	20·1 21·3 26·1 31·6 21·4 22·9 25·2 23·8 16·6	1,143 6,049 5,400 35,456 38,465 6 070 6,891 6,258 7,962 113,694	12·3 11·2 12·3 11·3 10·4 8·5 7·3 8·0 10·6	10·3 12·4 12·6 14·3 11·3 8·3 7·4 8·5 9·0	584 4,330 3,663 24,876 29,892 6,113 5,781 6,345 6,190	6·3 8·0 8·3 7·9 8·1 8·5 6·2 8·2 8·2	5-6-8 7-4 6-8 7-1 6-7 7-4 7-3	

¹ Preliminary figures.

Births.—Vital statistics for the whole of Canada on a uniform basis have been made available only since 1926 when the province of Quebec came into the Registration Area. From 1926 to 1930 the number of births, though not the rate, showed an upward trend, rising from 232,750 in the former year to 243,495 in the latter.

Since 1930, however, the movement has been reversed. The number of births has declined to 219,988 in 1937 and because of the growing population the rate shows a still more decided reduction, having fallen from 23.9 per thousand population in 1930 to 19.8 per thousand in 1937. A disturbing situation, as it has affected the birth rate, has been the extension of rural depopulation. The decline in births during the depression has, however, been partly offset by a fall in the number of deaths.

Deaths.—The number of deaths which occurred in 1937 and the rates for 1926 and 1937 are given in the above table.

Main Causes of Death.—The six chief causes of death accounted in 1937 for well over one-half of the total deaths in Canada. Diseases of the

² Exclusive of Yukon and the Northwest Territories.

heart considered as a group was the most important cause in this year. Cancer was second—incidentally, the death rate from this cause has advanced for almost every year from 1926 to 1937, but this trend is in a considerable measure accounted for by the ageing of the Canadian population. Third in importance as a cause of death was the group "diseases of the arteries", which has also shown an apparent upward trend since 1926. Pneumonia was in fourth place, although up to and including 1932 this cause took precedence over diseases of the arteries. Tuberculosis was next and diseases of early infancy, nephritis, and accidental deaths sixth, seventh, and eighth, respectively.

Infant Mortality.—A good indication of the efficiency of the health services of a country is provided by its infant mortality. In Canada during recent years this rate has shown a substantial reduction, falling from 102 per thousand live births in 1926 to 76 in 1937. The Canadian rate, however, ranks fairly high as compared with those of other countries, and room for improvement is still great, especially as regards gastro-intestinal diseases and diseases of the respiratory tract.

Infant Deaths and Death Rates in Canada

Province	Infants under One Year				Rates per 1,000 Live Births			
	1926	1935	1936	19371	1926	1935	1936	19371
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	123 882 1,095 11,666 5,302 1,122 1,681 1,233 588	388 866 6,939 3,515 837 1,194 936 460	137 781 806 6,220 3,416 779 1,030 940 465	152 811 1,072 7,580 3,378 826 1,234 993 629	70 80 106 142 78 77 81 85 58	72 72 83 92 56 63 61 58 46	69 66 77 83 55 61 54 60 44	73 70 101 100 55 61 63 63
Canada ²	23,692	15,730	14,574	16,675	102	71	66	76

¹ Preliminary figures.

Natural Increase.—Natural increase results from the difference between births and deaths. The birth rate (as indicated in the table on p. 16) is, in general, declining in Canada. The death rate, however, is also declining (though at a slightly lesser rate) with the result that the rate of natural increase has been downward on the whole since 1930. The rate for 1926 was 13·3 per thousand population; for 1929 it was 12·2; for 1933, 11·3; and for 1937, 9·6.

Marriages.—The recent depression exercised a marked influence on marriages and the marriage rate in Canada. The year 1937, however, showed a very marked recovery. In 1929 marriages in Canada numbered 77,288. They declined to 71,657 in 1930, 66,591 in 1931, and 62,531 in 1932. The corresponding rates were 7·7 per thousand in 1929, 7·0 in 1930, 6·4 in 1931, and 6·0 in 1932. The year 1933 showed a slight upturn in the number of marriages, viz., 63,865, though the rate remained unchanged at 6·0 per thousand. In 1934 they increased by more than 9,000, reaching 73,092, with a rate of 6·8; in 1935 the number was 76,893 and the rate 7·0; in 1936 the number was 80,904 and the rate 7·3; while 1937 showed an increase in number to 87,774 and the rate to 7·9.

² Exclusive of Yukon and the Northwest Territories.

CHAPTER III

AGRICULTURE

The soil and climate of Canada are such as to permit a great diversity of farming enterprise within the country. This will be evident from a brief consideration of the prevailing regional types of farming in the Dominion.

The Maritime Provinces show considerable regional difference in crop production. In certain areas, especially adapted to their production, potatoes and apples are important cash crops. Hay and clover occupy the greatest proportion of the general field-crop area, while on large acreages of dykelands adjacent to tide water, hay raising is a specialty. Dairy products supply a large proportion of the farm income.



Farm Scene, Ste-Ursule, Que.

Courtesy, Canadian National Railways.

The province of Quebec is adapted essentially to mixed farming, with large regions specializing in dairying. The forage and coarse grain crops comprise over 90 p.c. of the total field-crop area, while among the strictly cash crops, potatoes occupy the greatest area. This province accounts for the bulk of the maple syrup and sugar made in Canada and is an important producer of honey. Vegetable crops provide a substantial revenue, while certain types of tobacco thrive in the province.

While mixed farming predominates in the province of Ontario, considerable attention has been given to the development of specialized farming enterprises such as the growing of fruits, truck crops, and tobacco. As in Quebec the major part of the cultivated area is planted to forage crops and coarse grains but the acreages of cereals are much larger than in Quebec. In some counties the fall wheat crop contributes a fair

proportion of the cash income. Sugar beets are an important crop in the southwestern part of the province. Dairy farming is carried on throughout the whole province with considerable specialization in the areas surrounding the larger centres of population, in Oxford county and eastern Ontario. Fruit and vegetables are grown extensively in the Niagara and Essex peninsulas and in other districts bordering the Great Lakes and Georgian bay, while in the counties of Essex, Kent, Elgin, and Norfolk, tobacco is an important crop.

Over two-thirds of the field-crop acreage of Canada is concentrated in the three Prairie Provinces and most of this area is seeded to grain crops with wheat predominant. Generally speaking, the specialized wheat areas cover the southern short-grass plains from the Red River valley of Manitoba to the foothills of Alberta and attain their greatest width in central Saskatchewan. In the park belt lying mostly north of this region, mixed farming is practised, with large areas of coarse grains and natural hay used for live-stock feeding. In southwestern Saskatchewan and southern Alberta, cattle and sheep ranching is an important industry.

In British Columbia agriculture exhibits possibly a greater degree of diversity than in any other province, ranging from the highly specialized fruit and vegetable farms to the ranches of the interior. Fruit and truck crops are most important in the Okanagan and Kootenay valleys. Dairying and poultry raising are specialties on Vancouver island and in the lower Fraser valley.

Values of Agricultural Capital and Production

The current value of farm capital in Canada in 1937 was estimated at \$4,722,583,000 compared with \$4,626,161,000 in 1936 and \$4,712,391,000 in 1935. The increase in the total value of farm capital in 1937 was due chiefly to an increase in land values. In 1937, Ontario had 29 p.c. of the total value of farm capital, Saskatchewan 21 p.c., and Quebec 19 p.c.

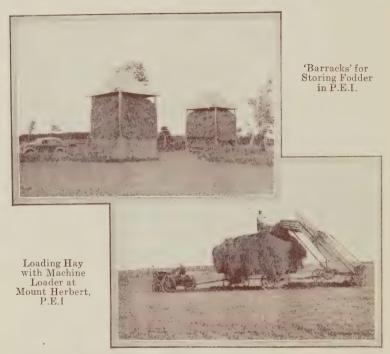
Current Value of Agricultural Capital, by Provinces, 1937

Province	Land and Buildings	Implements and Machinery	Live Stock	Total
	\$'000	\$'000	\$'000	\$'000
Prince Edward Island Nova Scotia Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	42,920	6, 142	8, 285	57,347
	91,084	7, 990	15, 453	114,527
	77,061	10, 030	16, 363	103,454
	684,131	73, 489	117, 025	874,645
	1,072,847	118, 501	200, 677	1,392,025
	238,901	39, 967	52, 436	331,304
	797,795	125, 382	91, 579	1,014,756
	517,003	86, 284	85, 072	688,359
	115,239	10, 669	22, 258	146,166
Totals	3,634,981	478,454	609,148	4,722,583
	3,554,474	494,197	577,490	4,626,161
	3,662,234	511,163	538,994	4,712,391

The gross value of agricultural production includes the value of all crops, live stock and animal products produced on farms in Canada. In 1937 the gross value of agricultural production was estimated at 65992—44

\$1,051,698,000, an increase of \$284,904,000 over the depression low established in 1932. Large gains in the gross value of agricultural production in 1937 were registered in Manitoba and Alberta.

Drought in Saskatchewan and eastern Alberta in 1937 resulted in the smallest out-turn of wheat since 1914. This lowered the total volume of crop production in 1937, although larger crops of coarse grains were obtained. Cash income from the grain crops of 1937 was considerably lower than in 1936. Lower prices for feed grains offset the larger 1937 production. Cash income from the sale of meat animals and poultry was greater in 1937, due to a greater volume of sales and higher prices. Fruit crops in 1937 were substantially larger than in the previous year and, because of superior quality, prices held up well in the face of the heavier supplies.



Harvesting Hay in Eastern Canada.—It is not generally realized that hay is the second most important Canadian field crop. Over the ten-year period 1928-37 the average annual value of the hay crop in Canada has been \$126,539,000 compared with \$212,132,000 for wheat and \$114,313,000 for oats.

Courtesy, Canadian Government Motion Picture Bureau.

Ontario and Manitoba both experienced a very favourable year in 1937. Crops in the Maritime Provinces and Quebec did not yield as well as in 1936. Alberta was in a slightly better position in 1937. With the exception of Saskatchewan, Canadian agriculture made considerable progress to a normal condition during 1937.

Gross Value of Agricultural Production in Canada, 1933-37

Item	1933	1934	1935	1936	1937
	\$'000	\$'000	\$'000	\$'000	\$'000
Field Crops	453,598	549.080	511.873	612,300	553,823
Farm animals	89,063	99,438	120,078	130,979	140.989
Wool	2,005	1,899	2,232	2,782	2,972
Dairy products	170,829	183, 791	193,487	211, 422	228, 403
Fruits and vegetables	34,588	43,424	49,964	43,845	41,900
Poultry and eggs	38,060	45,515	50,434	53, 244	51.766
fur farming	4,062	4,534	5,516	6,532	7, 645
Maple products	2,059	3,040	3,522	3,714	2,24
lobacco	6,533	7,231	10,763	9,420	17,056
lax fibre	161	250	321	298	332
Clover and grass seed	1,362	2.010	1.818	2.096	2, 298
Honey and wax	2,290	2,625	2,423	2,939	2,272
Totals	804,610	942,837	952,431	1,079,571	1,051,698

Field Crops

Acreages.—During the past half century there has been a tremendous increase in the area sown to field crops. The opening up of the Prairie Provinces and the stimulus to production induced by the Great War were the principal factors responsible for the increase of nearly 300 p.c. in field crop area between 1890 and 1938.

Wheat.—Production and trade for the years 1928 to 1938 are shown below.

Production, Imports, and Exports of Wheat for Canada, 1928-38

Note.—Wheat flour has been converted into bushels of wheat at the uniform average rate of $\frac{4}{2}$ bu. to the barrel of $\frac{196}{196}$ lb. of flour.

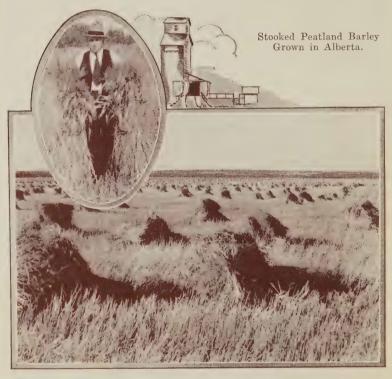
Year	Production	Imports of Wheat and Flour ¹	Exports of Wheat and Flour ¹	Year	Production	Imports of Wheat and Flour ¹	Exports of Wheat and Flour ¹
1928 1929 1930 1931 1932 1933	'000 bu. 566,726 304,520 420,672 321,325 443,061 281,892	bu. 1,345,881 1,374,726 244,220 216,328 173,014 413,165	bu. 407, 564, 186, 186, 267, 210, 258, 637, 886, 207, 029, 555, 264, 304, 327, 194, 779, 875	1935 1936 1937	'000 bu. 275,849 281,935 219,218 182,410 348,1002	bu. 896,674 291,510 403,396 6,138,819	bu. 165,751,305 254,424,775 195,223,653 92,957,047

¹ Imports and exports are for the years ended July 31, 1929 to 1938.

Prior to 1905 the amount of wheat produced was less than 100 million bushels. For six years it remained steadily over this figure until 231 million bushels was reached in 1911. In only three of the next twenty years was wheat production less than 200 million bushels, viz., 1914, 1918 and 1919. At that time the abnormally high 1915 crop of 393 million bushels set a record for a number of years until 1922, when nearly 400 million bushels was produced. New high records were attained in 1923 (474 million bushels), in 1927 (480 million bushels), and in 1928 (567 million bushels). Except for the years 1930 and 1932 when production exceeded 400 million bushels, the years from 1929 to 1937 were marked by unfavourable climatic conditions and yields were correspondingly low.

² Subject to revision.

Rust in 1935 caused serious damage, whereas in 1937 the worst drought ever experienced on the prairies reduced the crop to 182·4 million bushels, the smallest yield since 1914. Greatly improved rainfall in the Prairie Provinces in 1938 resulted in the best Canadian wheat crop since 1932, although rust and grasshopper damage was heavy in the 1938 season.



Field Crops of Alberta.—Harvesting a splendid crop of wheat near Spruce Grove, Alberta.

Courtesy, Department of Trade and Industry, Alberta.

Other Grains.—These grains consist of oats, barley, flaxseed, rye, buckwheat, peas, mixed grain, and corn. The first two have assumed real importance among the field crops of Canada. The volume of oat production has attained considerable dimensions, reaching the record total of close upon 564.000,000 bushels in 1923. The area under crop has expanded from 3,961,356 acres in 1890 to 13,048,500 acres in 1937, when the production was estimated at 268,442,000 bushels. Barley, with a production of 11,496,000 bushels in 1870, yielded a record total of 136,391,400 bushels in 1928, while the yield for 1937 is now estimated at 83,124,000 bushels. Rye production amounted to 1,064,358 bushels in 1870, increased to 32,373,400 bushels in 1922, and receded to 5,771,000 bushels in 1937.

The Field Crops of Canada, 1

Field Crop	Area	Total Yield ¹	Total Value	Field Crop	Area	Total Yield ¹	Total Value
Wheat Oats. Barley. Rye. Peas. Beans. Buckwheat. Mixed grains. Flaxseed. Corn for husking.	13,048,500 4,331,400 893,700 84,000 67,600 395,500 1,128,200 241,300	7,745,000 36,129,000 697,600	114, 665, 000 41, 984, 000 4, 225, 000 2, 012, 000 5, 494, 000 18, 296, 000 1, 053, 500		185,700 8,650,200 848,900 447,300	cwt. 42,547,000 36,300,000 tons 13,030,000 2,107,000 3,927,500 1,768,000 418,000	11,799,000 97,309,000 16,947,000 12,087,000 11,021,000

1 Yields of the most important crops, according to second estimates for 1938 as published on Nov. 10, 1938, are: wheat 348,100,000 bu.; oats 377,315,000 bu.; barley 102,731,000 bu.; mixed grains 39,466,000 bu.; potatoes 35,774,000 cwt.; turnips, mangolds, etc. 37,970,000 cwt.; hay and clover 13,959,000 tons.

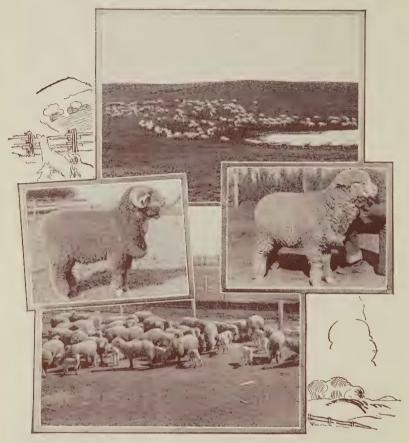
Prices of field crops were at an unusually high level during the War and until 1919, then slumped steeply, falling to a low level in 1923. Recovery followed in the years up to 1930, when sharp declines commenced, bringing the prices of many crops to the lowest recorded levels. The value of the field crops of Canada, which in 1910 was \$384,514,000, had increased by 1914 to \$638,580,000. As the effects of the War came to be felt, the maximum was reached in 1919 with a total of \$1,537,170,000. This value receded to \$899,266,200 in 1923 but the recovery of prices combined with excellent harvests brought the value up to \$1,173,133,600 in



A Potato Field, Victoria, P.E.I.

Courtesy, Canadian National Railways.

GOVERNMENT AID TO SHEEP BREEDING



With the rehabilitation of abandoned farm lands in the drought areas of Western Canada, range sheep may be expected to show some increase in numbers. Sheep are particularly suited to the short grass areas where feed is relatively sparse and winters are in many cases severe. However, not all breeds or types of sheep are adapted to the environmental conditions to which they become subject under range conditions, and years of experience have indicated to the range men that their sheep must have a high concentrate of Rambouillet blood if they are to survive and produce satisfactorily under adverse conditions.

The Rambouillet breed has certain characteristics which make it especially desirable for range conditions. First of these is the herding instinct which enables the rancher or herder to easily handle bands of 1500 to 2000 ewes. Ability to subsist and thrive on relatively sparse feed is another essential feature and it is interesting to note that these sheep thrive better on sparse, short grass than on more luxurious growths of taller coarser grass. The hardiness of the Rambouillet is another desirable feature as the climatic extremes of drought, h.at and co'd require a hardy breed of sheep. In wool production well-bred Rambouillets also excel and especially when related to the feed and environmental conditions of range management.

To assist in providing a satisfactory supply of high-class rams, the Dominion Department of Agriculture has established two stud flocks of Rambouillets in Canada. Ewes and rams were imported from the United States, as progressive breeders in Montana and Northern Utah have, during the past ten or fifteen years, greatly overcome certain deficiencies of the Rambouillet and have developed a superior type, at the same time retaining all the desirable and essential characters of range sheep. The importation, made in the spring of 1938, consisted of 150 ewes, bred to lamb the same spring, 250 yearling ewes

1927 and \$1,125,003,000 in 1928. Since then it declined to \$948,981,000 in 1929, \$662,040,000 in 1930 and \$432,199,400 in 1931. With the exception of 1935, there was a gradual gain in value until the 1936 season when it stood at the highest level since 1930. Comparative figures for the past six years are: 1932, \$452,526,900; 1933, \$453,958,000; 1934, \$549,079,600; 1935, \$511,872,000; 1936, \$612,300,400; and 1937, \$553,823,100. Due to the reduced yields of many crops, the 1937 production is valued at \$58,000,000 less than that of 1936 from the same crops.

The Flour-Milling Industry.—This most important manufacture connected with the field crops dates back to the first settlement made by the French in 1605. The milling of flour on a large commercial scale began with the competition between the two processes, stone and roller milling. About 50 years ago, the roller process secured a virtual monopoly of the industry and local country mills gave way to large mills served by elevators at central points. The high quality of Canadian wheat soon became recognized throughout the world and Canada's huge export trade in wheat and its products developed rapidly. Statistics of the milling industry will be found in Chapter XIII—Manufactures.

Live Stock

The live-stock industry occupies an important place in Canadian agriculture and is carried on in all provinces of the Dominion. Cattle raising is the leading branch of the industry and embraces both the breeding of dairy cattle and the raising and finishing of meat animals. In the latter case, ranching is followed mostly in the Prairie Provinces while the finishing of cattle for market is more common to Ontario and Quebec where abundant supplies of all feeds are available. Cattle numbers rose successively from 7,973,000 in 1931 to 8,951,900 in 1934 but declined to 8,511,000 in 1938. Ontario is the leading province in hog raising but the availability of abundant supplies of barley in the park belt of Alberta and Saskatchewan is responsible for the rapid development of hog raising in those areas. Swine numbers have fluctuated sharply in sympathy with market prices. From a total of 4,699,800 in 1931, they dropped to 3,549,200 in 1935, advanced again to 4,138,600 in 1936, and in 1938 declined to 3,486,900. Sheep numbers have remained fairly constant during the past few years and in 1938 were estimated at 3,415,000. Farm poultry numbers have declined from a high point of 65,152,600 in 1931 to 57,237,000 in 1938. The raising of horses still occupies a prominent place in the live-stock industry.

to be bred in the fall of 1938, and 12 rams. These sheep were evenly divided into two flocks, one located at the Experimental Station, Lethbridge, and the other at the University of Saskatchewan, Saskaton. The 150 bred ewes had a very satisfactory lamb crop and approximately 50 to 60 males should be available for sale in the fall of 1939. The purpose of the flocks is to provide high-class males for ranchers who desire to improve their flocks. As the breeding project gets fully under way, approximately 150 high-class rams should be available for sale each year and in a relatively few years this should have a decided effect in improving the range sheep of the Prairie Provinces.

Reading downwards, the layout shows: (1) Typical scene from a sheep range in southern Alberta. (2) Shearling Rambouillet ram of the type selected for use with imported ewes. (3) Shearling Rambouillet ewe of the type selected for the ewe bands at Lethbridge and Saskatoon. (4) Some of the imported Rambouillet ewes and their lambs, April, 1938.

The numbers of horses on farms declined rapidly after the War, but in recent years the decrease has been small. In 1938, horses on farms numbered 2,821,000, a slight decrease from the previous year.

Slaughtering and Meat Packing.—This is the most important manufacturing development connected with the live-stock industry. For statistics of slaughtering and meat packing, see Chapter XIII.

Exports.—In 1937, exports of live cattle showed improvement over 1936. The movement to the United Kingdom declined sharply from 38,495 head valued at \$2,897,452 to 9,610 head worth \$853,347. At the same time the United States increased her imports of Canadian cattle from 232,500 head valued at \$8,606,149 in 1936 to 296,155 head having a value of \$13,553,064 in 1937. The comparative totals for the two years were 276,043 head worth \$11,686,683 in 1936 as against 310,332 head worth \$14,958,800 in 1937.

Exports of bacon and hams for 1937 showed almost a 25 p.c. increase over 1936, the comparative figures for the two years being 1,956,169 cwt. as against 1,580,496 cwt. The respective values of the shipments were \$33,405,935 and \$25,957,012. The United Kingdom takes by far the greater portion of these exports, the figures for the two years being 1,920,587 cwt. worth \$32,467,161 in 1937 and 1,547,688 cwt. worth \$25,138,490 in 1936. Exports of fresh beef showed an increase in volume of nearly 40 p.c. over the previous year. The total quantity shipped during 1937 was 161,205 cwt. compared with 114,508 cwt. in 1936. The respective values of these shipments were \$1,225,931 and \$759,580.

Total exports of animals and animal products have shown a progressive increase over the past few years. In 1937 the value of these exports was \$144,532,334 while in 1936 the value of exports was \$124,694,815. In 1937, exports valued at \$79,734,849 went to the United Kingdom and at \$48,778,884, to the United States.

Special Crops

A feature of Canadian agriculture is the number of special crops that are grown in localities particularly suited for their production. Some of the more important of these are tobacco, sugar beets, maple syrup and sugar,

and vegetable crops.

Commercial production of tobacco is centred in Ontario and Quebec, with a few hundred acres of flue-cured grown in British Columbia. Record crops in 1937 and 1938 have increased production from 46,100,000 pounds grown on 55,000 acres in 1936 to 72,100,000 pounds from 69,000 acres in 1937 and 95,800,000 pounds from 83,400 acres in 1938. The greater proportion of the Ontario crop is of the flue-cured type, the volume of which has expanded from 6,200,000 pounds in 1927 to 71,700,000 pounds in 1938. Production of burley and dark types has shown a relative decline during the same period.

Quebec leads in the output of maple products. With production in 1938 at the highest point since 1929, and amounting to 3,300,700 gal. in terms of syrup, the value of sugar and syrup produced in all Canada was

\$3,849,900, as compared with \$2,245,000 in 1937.

Sugar-beet production is centred in southwestern Ontario and near Raymond, Alta., although there are other areas sown to this crop in Quebec and Manitoba. In 1937, the latest year for which factory statistics are available, the output of refined beetroot sugar amounted to 120,440,235 lb., valued at \$5,230,971 as compared with 156,066,242 lb., valued at \$6.103.264 in 1936.



Tulip Bulb Farm, Salmon Arm, B.C.

Courtesy, British Columbia Department of Agriculture.

The growing of fresh vegetables for market is an important occupation in many parts of Canada, particularly in suburban areas. Truck farms located in especially favoured regions provide raw materials for the vegetable-canning industry and cater to the demands of the fresh vegetable market. Other special crops of lesser importance are clover and grass seed, hops, flax and hemp for fibre.

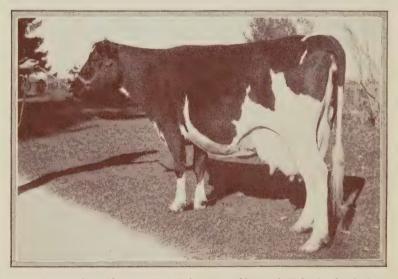
Specialized poultry farming has increased in popularity in the past ten years, particularly in Ontario and British Columbia, and there has also been a large expansion in farm flocks. The effects of selective breeding are noticeable in the improved quality of eggs and dressed poultry. The grading of marketed products is also receiving more attention.

The production of honey is common to all provinces, with Ontario, Manitoba, and Quebec the leaders. In 1937 the estimated Canadian production was 21,733,250 lb. as compared with 28,233,800 lb. in 1936. The 1937 crop of honey and wax was valued at \$2,272,170.

Dairying

Dairying has long been regarded as an important Canadian industry and within recent years its rapid expansion has given it a position of leadership among revenue-producing farm enterprises. In early pioneer

days both butter and cheese were made on the farms by the settlers and what they did not require for their own use was bartered for clothing and groceries in the nearby towns and villages. As the country developed, the production of these products became specialized undertakings and gave rise to the establishment of creameries and cheese factories. At the present time 1.312 creameries, 1.023 cheese factories, and 264 factories manufacturing both butter and cheese are being operated in Canada. The output of these factories in 1937 reached a total of 246,387,300 lb, of butter and 128,444,300 lb. of cheese, valued at \$63,217,300 and \$17,845,300, respectively. Due to higher prices, the production of cheese in 1937 increased 8 p.c. over the production of 1936 while the butter output declined 1 p.c. In 1900 the production of cheese amounted to approximately 221,000,000 lb. as compared with 36,000,000 lb. of creamery butter. Although cheese production exceeded the creamery butter output for another two decades, a gradual but continuous change from cheese making to butter making was taking place, and by 1922 the creamery butter output overtook cheese production for the first time. It held the lead until 1925 when the cheese industry again recovered first place. But recovery was temporary, for in 1926 the tide again turned in favour of butter production, and from 1925 to 1934 the production of factory cheese fell from 177,000,000 lb, in the former year to 99,000,000 lb. in the latter, while that of butter increased from



Regasborne Alice Alcartra (302,376).—A world-record Holstein, bred, from Ontario stock on both sire and dam sides, on the farm of Osborne Sager in Wentworth Co., Ont., established, in Nov. 1938, world records for production of both milk and fat in the 365-day and 305-day divisions, twice-a-day milking. Her milk record of 22,227 lb. displaces that of Supreme Ruby Echo, the former Canadian champion with 19,005 lb., and the United States champion Josika Ormsby Korndyke Lass with 18,463 lb. Commencing at 3 years 253 days of age, her record has been: Days, 365—milk, 25,460 lb.; fat, 916 lb.; av. test, 3·60 p.c. Days, 305—milk, 22,227 lb.; fat, 816 lb.; av. test, 3·67 p.c.

Courtesy, Holstein-Friesian Association of Canada, Brantford, Ont.

169,000,000 lb. to 235,000,000 lb. The cheese industry regained some lost ground in 1928 and again in 1932, but otherwise the decline was continuous for fourteen years, leaving its competitor in an unchallenged field. The production of dairy butter has increased approximately 18,000,000 lb. in the past ten years and the 1937 production of 113,000,000 lb. represents 31.5 p.c. of the total butter output. Farm-made cheese, on the other hand, represents only 1 p.c. of the total cheese production.

Concentrated milk (included under "Miscellaneous Factory Products" in the following tables) is another branch of dairy manufacturing that has developed at the expense of cheese production. During the period 1932 to 1937, whole milk products increased 66·6 p.c. while milk by-products advanced 46·5 p.c. In 1937, 21·8 p.c. of the total output of nearly 138,000,000 lb. was shipped to British and Empire markets. Another important product in the miscellaneous group is ice cream. During the same five-year period, the total output for the Dominion has increased by more than 3,500,000 gal.

With the growth of urban centres, more and more milk is being used in the fluid form, a fact which has a significant connection with the decline in the cheese industry. Although dairying suffered from low market prices between 1930 and 1932, the value reductions were not as great as those of other farm products. In 1930 dairy products represented 19 p.c. of the total farm revenue, while wheat represented 14 p.c. Even with higher wheat prices during subsequent years, the value of dairy products in 1937 was over \$46,000,000 above that of the principal field crop.

The consumption of cheese in Canada is less than $3\frac{1}{2}$ lb. per capita, but butter consumption is nearly $32\frac{3}{4}$ lb. This helps to explain why the bulk of our Canadian cheddar cheese is marketed overseas while butter is chiefly consumed in this country. When large quantities of cheese were being manufactured exports were correspondingly high, but as production declined exports also fell to low levels. In 1937, 88,955,300 lb. were exported, the highest since 1932. During the first nine months of 1938 only 48,713,600 lb. were exported, a fall of $12 \cdot 7$ p.c. as compared with the same period of 1937. The 1937 exports of Canadian cheddar cheese represented $24 \cdot 6$ p.c. of the total cheese entering the British market.

Production of Dairy Products in Canada, by Provinces, 1937

Province	But	ter	Che	ese	Miscel-	Milk	All
	Creamery	Dairy	Factory	Farm- made	laneous Factory Products	Other- wise Used	Products Expressed as Milk
	lb.	lb.	lb.	lb.	'000 lb.	'000 lb.	'000 lb.
P.E.I. N.S. N.B. Que Ont Man Sask Alta B.C. Totals, 1937 1936	2,114,700 5,874,100 3,623,800 74,083,500 81,227,400 24,343,500 23,571,900 26,323,600 5,224,800 246,387,300 256,931,777	1,732,000 6,455,000 6,260,000 14,494,000 31,365,000 10,200,000 24,200,000 2,778,000	597,200 29,785,200 92,255,800 2,923,900 343,400	300 20,000 5,000 256,000 132,000 168,000 254,000 321,000 76,000	628 17, 449 4, 264 25, 102 287, 160 8, 731 5, 963 8, 813 60, 120 418, 230 316, 772		485,743 419,095 4,544,095 6,770,145 1,170,865 1,603,619 1,488,401

Value of	Dairy	Products	in	Canada,	by	Provinces,	1937
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Decerings	Butt	er	Che	ese	Miscel- Milk laneous Other		All	
Province	Creamery	Dairy	Factory	Farm- made	Factory Products	wise Used	Products1	
	\$	\$	\$	\$	\$	8	′ \$	
P.E.I. N.S. N.B. Que Ont Man. Sask Alta B.C.	568,400 1,633,000 951,300 19,261,700 21,444,000 5,842,400 5,657,300 6,344,000 1,515,200	398,000 1,743,000 1,627,000 3,189,000 6,900,000 1,989,000 4,356,000 2,964,000 556,000	$\begin{array}{c} 4,110,400 \\ 12,823,600 \\ 394,700 \\ 50,500 \\ 272,100 \end{array}$	22,000	344,700 2,637,000 14,650,000 802,500 494,900 697,900	2,475,000 $2,095,000$ $26,595,000$ $41,014,000$ $3,180,000$ $4,507,000$ $5,666,000$	7,194,600 5,505,600 58,019,100	
Totals, 1937 1936	63,217,300 57,662,160	23,722,000 20,926,000		174,027 162,028	23,068,500 18,070,763	90,562,000 89,431,000	228,403,127 211,421,764	

¹ Includes the value of skim milk and buttermilk.

For some years after the War butter exports were relatively high amounting in 1925 to 24,000,000 lb., but with the development of the home market export shipments of butter declined, and at times they have been reduced to quite insignificant quantities. Aided by a government equalization fund which guaranteed shippers against financial loss, the exports in 1935 amounted to 7,700,000 lb., most of which went forward in October of that year. In 1936 exports were only 5,000,000 lb., shipped principally during the period from July to November. During 1937, 4,096,600 lb. were shipped from Canadian ports, the principal movement beginning at the end of September. Of the 2,092,800 lb. exported in the first nine months of 1938, 1,571,200 lb. were shipped out of Canada in September.

Fruit Growing

Certain sections of Canada, by reason of favourable soil and climatic conditions, are particularly well suited to fruit growing. The Annapolis valley of Nova Scotia, the Niagara peninsula in Ontario and the Okanagan valley of British Columbia are world-famous centres of production. Experimental shipments of Nova Scotia apples were first made in 1861 but not until 20 years later did the trade develop into a successful commercial venture. Up to 1890, the annual production of apples in Nova Scotia rarely exceeded 100,000 barrels, but after that date there was a pronounced increase in acreage and in production which later reached 1,000,000 barrels in 1909 and 1,900,000 barrels in 1911. The all-time high record for production was established by the crop of 1933 which reached the total of 2,438,000 barrels. The great bulk of the Nova Scotia crop is exported to Britain.

In Ontario, where the commercial production of all varieties of fruits has reached its highest development, apples have been grown from the middle of the 18th century but commercial orcharding has developed only during the past 60 or 70 years, following the improvement in transportation facilities. In addition to apples, practically all other temperate-zone fruits are grown in Ontario but the strawberry, peach, and grape are the most important from the revenue-producing standpoint. Some Ontario fruit is exported to British and continental European ports but most of it is marketed in the province and in other parts of Canada.

In British Columbia, commercial fruit growing is of comparatively recent origin, growth in production having been particularly rapid since 1910. The high point was reached in 1937 with a crop of 5,798,300 boxes of apples. Other tree fruits such as pears, plums and prunes, cherries, peaches and apricots are all grown in commercial quantities while all the berry crops are grown extensively in the province. The Prairie Provinces and Eastern Canada absorb a large part of the production while considerable quantities of apples are exported to British and foreign markets.



Disking an Orchard, Beamsville, Ont.

Courtesy, International Harvester Company of Canada Limited.

In New Brunswick and Quebec, fruit growing is increasing and fairly important. Apples and strawberries are the principal crops.

In 1937, the total value of commercial fruit production in Canada was \$17.481,200, including: apples, \$10,645,000; pears, \$538,900; plums and prunes, \$278,100; peaches, \$960,400; cherries, \$533,700; strawberries, \$2,226,100; raspberries, \$959,600; loganberries, \$119,300; and grapes \$1,085,900. Conditions during 1938 were favourable for the development of fruit crops and, except for grapes and strawberries, all fruits showed substantially larger production than during 1937.

Marketing of Agricultural Products

The Canadian Grain Trade.—The natural advantage which the Prairie Provinces enjoy in the production of high quality grains is to some extent offset by the long distances which have to be covered to bring these products to seaboard outlets. Toward overcoming this handicap, an elaborate yet economical system of handling, storing, and

transporting grain has been developed within the past half century. Included in this system are extensive inspection and grading facilities which ensure a high degree of uniformity in the quality of the various grades and thus perpetuate the reputation Canadian grains have achieved.

Unlike the handling systems of most countries, Canadian grain is handled in bulk, rather than in bags, and is sold abroad by export grades, rather than by sample. The bulk handling of grain has been facilitated by the system of country and terminal elevators which has grown with the increase in wheat production. In 1900-01, there were already in operation 518 country elevators with a total capacity of 12,759,352 bushels. By 1937-38 these had increased to 5,695 with a capacity of 189,251,300 bushels, although some of these elevators have not been operating during the recent years of light production.

From these country elevators the grain is moved by rail through any one of a number of inspection centres, such as Winnipeg, Calgary, or Edmonton, to the terminal elevators located at Fort William-Port Arthur or on the Pacific coast. The number of licensed elevators at the Head of the Lakes has grown from 5 in 1900-01 with a capacity of 5,570,000 bushels to 32 with a capacity of 92,897,210 bushels in 1937-38. Pacific coast terminal elevators are located at Vancouver, Victoria, New Westminster and Prince Rupert and have a capacity of 22,109,110 bushels. A new route to overseas ports has been developed through Churchill with the erection of a terminal elevator in 1931 having a capacity of 2,500,000 bushels. The movement of grain through the Head of the Lakes has always been the heaviest. Total receipts of wheat, oats, barley, rye, and flaxseed at Fort William-Port Arthur in 1937-38 were 111,443,148 bushels, compared with receipts at Pacific elevators of 11,492,255 bushels.

From the Head of the Lakes, grain is shipped by water to eastern elevators located on the Lower Lakes and along the St. Lawrence river. Lower Lake elevators supply grain for eastern consumption and for transshipment to the St. Lawrence. Grain also moves from the Head of the Lakes to United States lake ports for United States consumption, milling-in-bond, or shipment by canal or rail to Atlantic seaboard ports. In winter months, small amounts of grain are moved by rail from Georgian Bay and Lower Lake elevators to the ports of Saint John, West Saint John, N.B., and Halifax, N.S., which are open to navigation the year round. Within the past two years a few small ocean-going vessels have gone directly to the Head of the Lakes, and have cleared with grain cargoes for overseas ports.

Clearances of Canadian wheat in 1937-38 from Canadian and United States ports amounted to 77,137,674 bushels. United States imports for consumption and milling-in-bond during 1937-38 amounted to 2,204,546 bushels. The total export movement of Canadian wheat in 1937-38 amounted to 92,957,047 bushels, including wheat flour expressed as wheat. Exports of oats and oat products in 1937-38 amounted to 8,571,773 bushels. Barley exports totalled 14,744,288 bushels, while rye exports amounted to 648,302 bushels. Flaxseed exports amounted to 16,142 bushels while, on the other hand, flaxseed imports into Canada totalled 1,116,374 bushels.

Marketing of Live Stock.—The marketing of Canadian live stock involves the sale, transportation and storage of live stock and processed meats. To facilitate the assembly and sale of live stock, eleven public

The Marketing and Handling of Agricultural Products

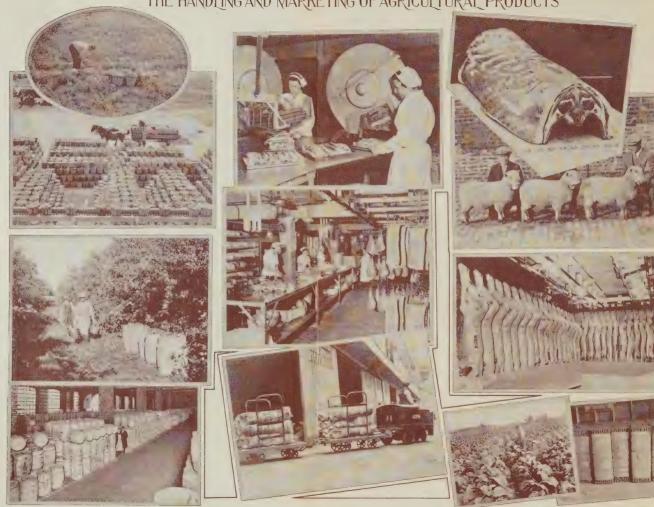
The layout on the reverse side shows: Left-hand column reading downwards—(1) Baskets of tomatoes arriving at a cannery for processing, Chatham, Ont. Inset: Picking tomatoes in the field in Ontario; (2) Gathering apples in a Quebec orchard; (3) Canadian apples, barrelled and classified, in a warehouse at Liverpool, England.

Centre column—(1) Slicing bacon in a Canadian packing plant; (2) The shipping room showing smoked meats ready for packing; (3) Truck loads of Canadian bacon, bailed for export, moving to the ship's side at Montreal, Que.

Right-hand column—(1) Three choice market ewe lambs. Inset: Choice government graded lamb cut (note the 'eye' of the lean meat); (2) High-class government graded beef ready for the wholesale trade; (3) A field of fine Ontario-grown tobacco, and bailed tobacco in storage.

Courtesy, Canadian Government Motion Picture Bureau and Department of Agriculture, Ottawa.

THE HANDLING AND MARKETING OF AGRICULTURAL PRODUCTS



stockyards are in operation. In addition to sale through these outlets, the producer may sell direct to packers or to local butchers.

Commercial marketings of cattle in 1937 amounted to 1,381,103 head, of which 1,002,859 head were sold through the stockyards, 272,575 head were sold direct to packing plants, and 105,669 head were sold direct for export. Total commercial marketings in 1936 were 1,282,552 cattle. The largest yards are located at Toronto and Winnipeg and over 70 p.c. of the cattle marketed through stockyards in 1937 were shipped to these two points. Movement of cattle to stockyards by truck has become increasingly important. In 1937 over 31 p.c. of the cattle and over 43 p.c. of the calves arrived at the stockyards by this means; calf marketings reached 859,258 head as compared with 680,062 head in 1936.

Hog marketings in 1937 were reported as 3,926,310 head compared with 3,796,952 head in 1936. The public stockyards handled 1,125,668 head. Of considerable interest in Canadian hog marketing is the trend toward carcass grading. The 1937 carcass gradings numbered 1,002,541 as compared with 447,493 in 1936.

Total sheep and lamb marketings were reported at 798,498 head in 1937 and 812,175 head in 1936. About one-half the sheep and lambs are sold through the public stockyards.

The greater proportion of horses marketed are transferred from one farm to another and thus do not appear on the stockyard records. There has been a very considerable increase in recent years in the number of horses shipped eastward through the St. Boniface yards at Winnipeg.

Marketing of Dairy Products.—Only 6.5 p.c. of the total domestic output of dairy products is marketed abroad. However, in the case of cheese, more than half is exported. Comparatively small quantities of butter and condensed and powdered milk are exported, so that, except for cheese, the distribution of dairy products is chiefly domestic in character.

Milk and cream for fluid consumption are sold by producers to distributors who process and retail the products, usually directly to consumers. In the case of some products, such as ice cream, the distributors sell to retailers. In the larger urban centres, the distributors usually own plants that not only process fluid milk and cream but also manufacture butter and concentrated milk products. Butter-manufacturing plants located in smaller urban centres generally deal with the one product only. Cream is sold for butter manufacture on a butterfat basis.

Farmers sell milk for cheese to small plants located in the producing areas. Cheddar cheese is marketed in Ontario at auction by country Cheese Boards through which all primary sales must be made.

All creamery butter and factory cheese exported from Canada must be graded and inspected by officers of the Department of Agriculture, and graders are maintained at all the principal centres throughout the Dominion. Within the past few years the grading of creamery butter for domestic consumption has been introduced into all but two provinces.

Marketing of Fruits and Vegetables.—Fruits.—Apples, the fruit crop most extensively produced in Canada are grown chiefly in Nova Scotia, Ontario, and British Columbia, with lesser quantities coming from New Brunswick and Quebec. Although much of the fruit is consumed on the domestic markets, the average of the exports for the years 1933-37

amounted to 49·3 p.c. of the crop. Of the 2,242,000 bbl. shipped out of the country during the 1937-38 season, 2,064,000 bbl. went to the United Kingdom and 127,556 bbl. were exported to Germany.

In addition to the heavy export shipments, the producing provinces sell considerable quantities of apples in Canada. The large consuming populations in Quebec and Ontario take much of the crop of these provinces by direct sales on farmers' markets and to dealer-truckers. In the cases of British Columbia, Nova Scotia, New Brunswick, and also Ontario, outlets in outside provinces have to be found. For this reason much of the crop is sold through co-operative agencies or through individual shippers. During the 1937-38 season, Nova Scotia shipped 535 cars; New Brunswick, 25 cars; Ontario, 165 cars; and British Columbia, 804 cars to consuming centres outside the province where they were produced.

Although pears, peaches, plums, cherries, and grapes are grown in substantial quantities in British Columbia, the bulk of these fruit crops is produced in Ontario. Large quantities of these fruits are shipped to other provinces but a considerable volume is sold on the farms to dealers and truckers from nearby commercial centres or to processing plants. The bulk of the British Columbia crop is sold in the Prairie Provinces.

Vegetables.—Potatoes, turnips, and onions are the important vegetables entering into interprovincial and export trade. During the fiscal year 1937-38, 865,614 bushels of potatoes, 96,797 bushels of onions and 2,469,358 bushels of turnips were shipped out of the country. Prince Edward Island and New Brunswick are most actively engaged in the export of potatoes; they also supply large quantities to Quebec and Ontario. Ontario and Prince Edward Island are the chief exporters of turnips; British Columbia shows the largest exports of onions.

Other vegetables such as cabbages, cauliflower, carrots, beets, beans, spinach, asparagus, and peas are produced generally, chiefly by growers located within easy reach of the cities. The bulk of this produce is marketed by the grower either on the farmers' markets or to trucker-dealers who make their purchases on the farms. There are certain specialized areas in Ontario and British Columbia where these vegetables are grown on a large scale. The growers in these sections dispose of the crops by car lots and make their sales through dealers in the large cities.

Marketing of Tobacco.—In Ontario the marketing of the flue-cured crop is regulated by the Flue-Cured Tobacco Marketing Association of Ontario which is located at Simcoe. Marketing of the burley crop is largely in the hands of the Burley Marketing Association of Ontario. These two organizations have introduced a marked degree of stability into the marketing of Canadian tobacco in recent years.

The need for regulation of the flue-cured crop grew out of the overrapid expansion in production. The Flue-Cured Tobacco Marketing Association was formed in 1937; through this organization control is now achieved by the voluntary co-operation of the growers in accepting acreage allotments, fixed annually by a standing growers' committee. One of the main objects of the Association, namely, a minimum price for the growers, is attained by a Market Appraisal Committee, which consists of six members of the Association, three representing the growers and three representing the tobacco companies. As soon as the appraisal price for the whole crop has been fixed, the prices for the different grades are automatically established by means of a scale of relative grade values. The appraisal price for the individual crop is not a guarantee that the crop will be sold at that price, but is merely a guide to assist the grower in determining the price he should accept. Growers are free to take any advantage that may accrue from competitive bidding.

Marketing of the commercial crop in Quebec is largely in the hands of the co-operative societies which are of the usual pool types. The members are compelled to market their tobacco through the Association which also buys tobacco from non-members. The strongest of these are the Cooperative Agricultural Association of the Yamaska Valley Limited, and the Farnham Tobacco Growers' Cooperative in the southern district. Some retail trade in unmanufactured tobaccos is carried on, either direct from farmer to farmer, or through small dealers. This trade is free of excise duty and forms an outlet for local pipe tobacco.

The home market for flue-cured leaf has shown the most rapid expansion in recent years. About 85 p.c. of raw leaf going into domestic consumption in 1937 was grown locally, as compared with only 54 p.c. in 1930. The increased use of domestic leaf has coincided with a drop in imports of foreign leaf from 17,400,000 pounds in 1930 to less than 3,000,000 in 1937.

Exports in commercial quantities began in 1920, reached a peak of 13,900,000 pounds in 1933 and totalled 10,000,000 pounds in 1936 and in 1937. The United Kingdom, which has always been the chief buyer, takes about 90 p.c. of the total leaf exports which are largely flue-cured.

Co-operation in Marketing.—In 1937 a total of 1,024 associations engaged in the marketing of farm products, and the purchasing of farm supplies, reported to the Economics Division, Dominion Department of Agriculture. These associations had approximately 4,000 places of business, 451,000 patrons, and total assets of \$88,000,000. Reserves and surplus amounted to \$42,000,000 and the business transacted totalled \$178,000,000. In addition to these organizations there are a large number of farmers' mutual insurance companies, credit unions, community halls, and other enterprises. The insurance companies alone carry insurance risk amounting to approximately \$1,000,000,000.

The Dominion Government and Agriculture

Virtually all Departments of the Dominion Government are in touch with agriculture in some way; for instance the Department of Finance has come into contact with farmers as a result of its administration of the Canadian Farm Loan Board Act passed in 1927.

The Farm Loan Board.—In 1929 the Canadian Farm Loan Board started to make long-term loans to farmers and by 1935 loans were being made in all provinces except Quebec which established its own farm credit scheme and commenced operations in March, 1937. The operations of the Board have shown a great increase in recent years. Whereas for 1930, the first full year of operation, the loans approved amounted to \$3,981,050, between 1933 and 1935 they fell to less than the

\$1,000,000 mark and for 1934 were only \$491,000; for the years 1936 and 1937 the figures were \$10,958,000 and \$10,509,000, respectively.

The Dominion Department of Agriculture

The Dominion Department of Agriculture was constituted in 1868, its functions at that time including such matters as immigration, public health, arts and manufactures, census, statistics, patents, copyrights and trademarks, in addition to the administration of agricultural affairs. In the course of time the growing importance of agriculture demanded full attention and other matters were entrusted to other departments. At present the Department of Agriculture comprises five services: Administration; Experimental Farms; Marketing; Production; and Science.

By means of these services, the Department assists the farmer directly and also co-operates with the provincial departments and agricultural colleges in furthering research and extension work. To ensure full co-operation, an Advisory Committee on Agricultural Services, consisting of Dominion and provincial representatives, meets annually.

The Department of Trade and Commerce

The Dominion Bureau of Statistics.—The Agricultural Branch is responsible for reports of acreages under crops, numbers of live stock on farms, stocks and movements of agricultural commodities, production of crops and live-stock and animal products, intentions of farmers to seed, and marketing intentions, prices received by farmers, values of farm lands, wages of farm labour, and farm income. The chief function of the Agricultural Branch is to make available to farmers current economic information that will assist them in planning their farm business.

Commercial Intelligence Service.—This Branch of the Department is responsible for the development of export markets for the primary and secondary products of Canadian farms as well as other non-agricultural commodities. Prior to the creation of the Department in 1892, commercial agents under the supervision of the Minister of Finance had been established in the British West Indies to make periodical reports on trade possibilities. Later a demand arose for more direct and continuous efforts to find markets. As a result, a number of Trade Commissioners, who devote their full time to trade development, are stationed in various parts of the world where they promote export trade by linking up Canadian exporters with British and foreign importers and by studying and reporting upon conditions in the territories where they are located.

Provincial Assistance to Agriculture

Each of the nine provinces, under Sec. 95 of the B.N.A. Act, has its Department of Agriculture, through which is carried on educational and extension work to assist farmers. Agricultural colleges maintained by the provinces are: the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the Manitoba Agricultural College at Winnipeg. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Saskatchewan, Alberta, and British Columbia.

CHAPTER IV

THE FOREST WEALTH OF CANADA— LUMBERING—PULP AND PAPER

According to the latest figures of the value of production, forestry in Canada ranks third, after agriculture and mining, among the primary industries. It is estimated that forest products make up about 17 p.c. of all the freight hauled on Canadian railways. The large excess of exports over imports which the group "wood, wood products and paper" provides, amounting to \$219,213,679 for the fiscal year ended March 1938, constitutes an influential factor in Canada's international trade.

Of the total forested area of 1,223,522 square miles, about 29·5 p.c. carries merchantable timber and 33·4 p.c. carries young growth. The remaining 37·1 p.c. is non-productive under present conditions.



Fine Stands of White (left) and Red (right) Pine, Algonquin Park, Ont.—White pine is the most valuable of the softwoods.

Courtesy, Provincial Forestry Branch, Toronto.

The total volume of accessible timber has been estimated at 170,144,000,000 cubic feet of which 68 p.c. is located in the eastern provinces, 15 p.c. in the Prairie Provinces, and 18 p.c. in British Columbia. In addition to this there is estimated to be 103,512,000,000 cubic feet of standing timber which is inaccessible under existing conditions. The total forest resources of 273,656,000,000 cubic feet are capable of being converted into 425,250,000,000 board feet of sawn lumber, and 1,746,639,000 cords of pulpwood, ties, poles, and similar forest products.

While the average annual drain on this resource (including loss by fire, insects and other agencies) may be in excess of the average annual increment, the rate of consumption will, no doubt, be reduced as the supply diminishes and losses due to fires, wasteful utilization, and other preventable causes are curtailed. An annual increment of 10 cubic feet per acre, which is quite possible under forest management, would provide in perpetuity for the needs of a population of over twenty-six millions at the average annual rate of use, which amounts to about 271 cubic feet per capita.



Shaping Waney Timbers from White Pine in the Forests of Eastern Canada. Inset: Waney timbers en route to the British Admiralty.

Courtesy, Forest Products Laboratories, Department of Mines and Resources.

Represented in the three great forest divisions of Canada are approximately 160 different species of plants reaching tree size. Only 31 of these species are coniferous, but the wood of these forms 80 p.c. of our standing timber, and 95 p.c. of our sawn lumber.

Operations in the Woods

The value of forest production resulting from operations in the woods of Canada is, according to latest figures (1936), over \$135,000,000 annually, being made up of logs and bolts for sawmills valued at \$45,000,000; pulpwood for domestic use and export valued at \$49,000,000; firewood valued at \$32,000,000; hewn railway ties valued at \$3,200,000; poles valued at \$1,600,000; and other primary forest products, such as square timber, fence posts and rails, and wood for distillation. The total value of forest products for 1936 shows an increase over 1935 with increases in all the principal products. (See the following table.) It has been estimated that this total primary forest production involved the cutting of about 2,700,000,000 cubic feet of standing timber in 1936. The felling and harvesting of a hundred cubic feet of standing timber (roughly equivalent to half a thousand board feet of sawlogs or a cord of pulpwood) is a liberal allowance for an average day's work for men employed in the woods and in the transportation of forest products to the mills or the market. Logging, however, is a seasonal operation at which the average labourer works less than a hundred days a year. It is therefore evident that the harvesting of 2.7 billion cubic feet of standing timber provided regular employment for more than 200,000 men. Probably twice that number are given at least part-time employment in the woods. This work is provided chiefly during the winter months when employment in other fields is at its lowest ebb. The steadying effect of operations in the woods on the employment situation and the fact that it provides a source of cash income for farmers and settlers during the winter should be more fully appreciated. In connection with operations in the woods, the forests not only provide the raw material for the sawmills, pulp-mills, wood distillation, charcoal, excelsion, and other plants, but also logs, pulpwood and bolts for export in the unmanufactured state and fuel, poles, railway ties, posts and fence rails, mining timber, piling, and other primary products which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as maple sugar and syrup, balsam gum, resin, cascara, moss, and tanbark, which all go to swell the total.

The following table gives the total value of the products of woods operations in Canada for the years 1932 to 1936, inclusive.

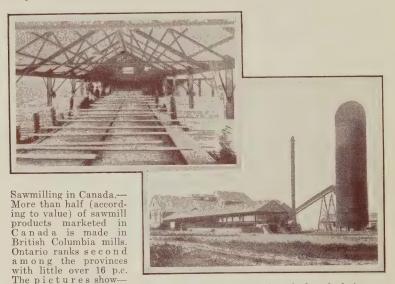
Value of the Products of Woods Operations, by Products, 1932-36

Product	1932	1933	1934	1935	1936
Logs and bolts. Pulpwood. Pirewood. Hewn railway ties. Square timber. Poles. Round mining timber. Fence posts. Wood for distillation. Fence rails. Miscellaneous products.	99,403 1,411,209 809,700 990,568 251,281 253,077	\$ 23, 158, 381 31, 141, 104 33, 213, 973 1, 370, 750 1 963, 951 841, 982 969, 291 342, 107 215, 521 1, 556, 082	\$ 29,115,515 38,302,807 31,489,524 1,541,901 1,091,046 954,059 988,884 286,847 262,519 1,506,630	\$ 34,077,938 41,195,871 31,864,500 3,188,651 1,359,736 997,357 976,402 274,797 266,253 1,260,274	\$ 44,827,957 48,680,200 32,167,410 3,190,052 1,563,681 1,102,255 1,008,178 274,077 273,282 1,717,136

¹ Included with "Miscellaneous products" in 1933, 1934, 1935, and 1936.

The Lumber Industry

Except in the Maritime Provinces, 90 p.c. of the forest land is still the property of the Crown—the lumbermen having been granted cutting rights only—and is administered by the various provincial departments.



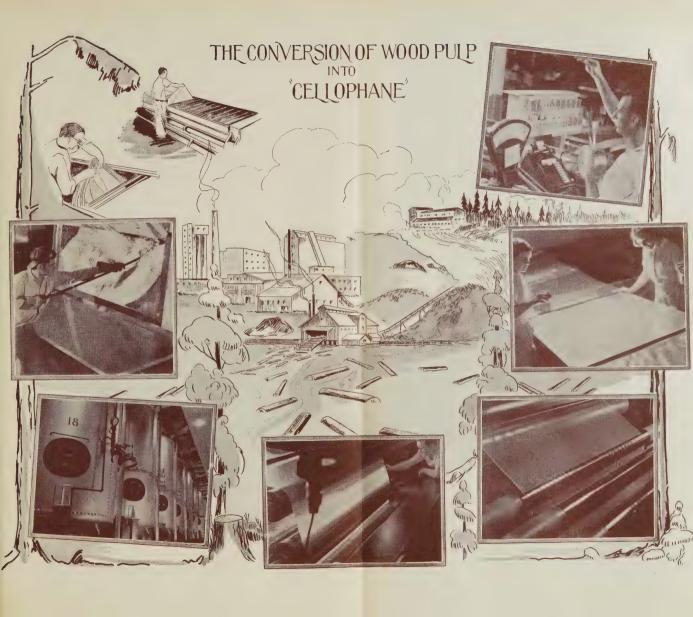
Upper left: Interior view showing part of the sorting shed and chain conveyors for the boards. Lower right: A modern sawmill.

Courtesy. Gillies Bros. Limited.

Canada's sawmills produced, in 1936, 3,412,151 M feet board measure of sawn lumber, valued at \$61,965,540. The greater part of this lumber is coniferous softwood, as the supply of the more valuable hardwoods such as hickory, oak, and walnut (once plentiful in southern Ontario and Quebec) has been almost exhausted. The mills also produced 3,019,031 thousand shingles, valued at \$6,754,788, 286,323 thousand lath, valued at \$874,231, as well as numerous other products, bringing the total value of the products of the industry up to \$80,343,291, an increase of 21.9 p.c. over the value of production for the previous year.

Production of Sawn Lumber and All Sawmill Products, 1936

Province	Sawn I Produ	Total Sawmill Products	
	M. ft. b.m.	8	\$
Prince Edward Island	118,402	88,904 1,704,920 3,906,448	118,138 2,049,412 4,720,350
Quebec. Ontario Manitoba	467,670 411,526	8,859,771 10,289,514 976,408	11,871,123 13,068,688 1,049,480
Saskatchewan. Alberta.	28, 290 86, 669	489,524 1,216,215	515, 224 1, 404, 446
British Columbia		34,433,836 61,965,540	45,546,430 80,343,291



The Conversion of Wood-pulp Into Cellophane

The illustrations, reading from top left around to top right, show how Canadian spruce is converted by chemical process into the transparent cellulose film that in recent times has contributed so much to the attractive display and retailing of all forms of merchandise.

In the first stage of this process, sheets of pure spruce wood are steeped in caustic soda; the sheets are thereby converted into alkali cellulose. The sheets are later removed from the caustic soda bath and taken to shredding machines.

The operations up to this stage are shown by the artist in the centre and upper left-hand corner of the layout.

The shredded alkali cellulose is now white and fluffy and resembles a mass of bread crumbs (see illustration 1). Carbon bisulphide is then added and the white fluffy mass is converted into soluble orange-coloured cellulose xanthate. The xanthate is then dissolved and the resulting viscose is ripened under carefully-controlled conditions in large tanks (see illustration 2). In illustration 3, the cellulose film is seen leaving the coagulating acid bath where it is transformed from a liquid into a solid; passage through one bath after another makes the film progressively purer, more transparent, tougher, and more pliable. The purified film now passes through heavy squeeze rolls where all excess liquid is removed (see illustration 4). Illustrations 5 and 6, show, respectively, finished sheets of cellophane and rolls of cellophane slit to meet the customer's specifications, undergoing very careful inspection before shipment.

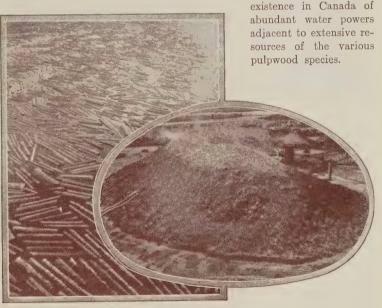
Courtesy, Canadian Industries Limited, Montreal.

The table on p. 40 gives the production of sawn lumber and of total sawmill products, by provinces, in 1936. British Columbia produced over 56 p.c. of the total value, Ontario 16 p.c., Quebec 15 p.c., followed by New Brunswick, Nova Scotia, Alberta, Manitoba, Saskatchewan, and Prince Edward Island in the order named.

Markets for Canadian lumber now include practically all the more important countries of the world. Canadian wood enjoys a preference in the British market and the value of Canada's exports of unmanufactured or partially manufactured wood to Great Britain has increased from \$4,848,157 in the calendar year 1932 to \$27,320,105 in 1937. The housing schemes which have been undertaken recently and the changed trend in type of construction have increased the quantity of timber going into construction work. Canadian timbers are well regarded in that market.

The Pulp and Paper Industry

The pulp and paper industry ranks first among Canadian manufacturing industries in capital, employment, wage and salary distribution, and net value of production. It is second to the non-ferrous smelting and refining group with respect to gross production. Its development has taken place for the most part during the present century, and is due chiefly to the

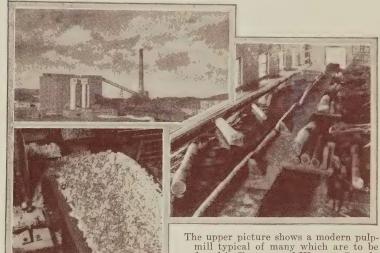


Logs in a Pulp-Mill Pond. Inset in oval: 30,000 cords of pulpwood piled for winter use (note the ventilation stacks at each side of the pile).

Courtesy, Fraser Companies Limited, Edmundston, N.B.

The pulp and paper industry has headed the lists in net value of production since 1920, and in wage and salary distribution since 1922, 65992—5

replacing the sawmills in both cases. It was first in gross value of production from 1925, when it replaced the flour mills, until 1935, when it was overtaken by the non-ferrous metal group. In these comparisons only the manufacturing stages of the pulp and paper industry are considered, no allowance being made for the capital invested, employment furnished, payroll, or production of those operations in the woods which form such an essential part of the industry as a whole.



mill typical of many which are to be found in Eastern and Western Canada that have established the position of the Dominion in the pulp and paper industry. Right: The pulpwood being conveyed on a belt during inspection

for cleanliness. Lower left: The wood is chipped and in this form is conveyed to the pulp digesters.

Courtesy, Fraser Companies, Limited, Edmundston, N.B.

The gross value of output of the industry increased rapidly and steadily until the boom years following the Great War when it jumped to a peak of over \$232,000,000 in 1920. This was followed, in 1921, by a drop which was general throughout the industrial field. From that year on there was a steady recovery resulting in a total for 1929 of \$243,970,761 followed by successive decreases to \$123,415,492 in 1933. The large decreases of these four years were due to both lower price levels and diminished production; however, for 1933, production was substantially greater than for the previous year although the total value was nearly 10 p.c. less. In 1934, 1935, 1936, and 1937 quantity and value production both increased. The gross value of production increased by $22 \cdot 2$ p.c. in 1937, when it reached a total of \$226,255,915, as shown in the following statement:—

	Gross	Net
	Production	Production
1933	\$123,415,492	\$ 56,880,641
1934	152, 647, 756	77, 253, 752
1935	162,651,282	81,944,813
1936	185.144,603	87, 150, 666
1937	226, 255, 915	106,013,221

There are three classes of mills in the industry. These, in 1937, comprised 27 mills making pulp only, 47 combined pulp and paper mills, and 24 mills making paper only.

In 1937 the 74 mills making pulp produced 5,141,504 tons valued at \$116,729,228, representing an increase of 14.6 p.c. in quantity and an increase of 26.4 p.c. in value over 1936; over 79 p.c. by quantity was made in combined mills and used by them in papermaking. About 4 p.c. was made for sale in Canada and 17 p.c. was made for export.

Of the total pulp production in Canada in 1937, 64 p.c. was ground wood, 18 p.c. unbleached sulphite, 9 p.c. bleached sulphite, 6 p.c. sulphate, and the remaining 3 p.c. screenings, etc.

The total production of paper in 1937 was 4,345,361 tons, which was valued at \$175,885,423. Newsprint and similar paper made up 3,673,886 tons, or 84 p.c. of the total, valued at \$126,424,303; paper boards made up 10 p.c.; wrapping paper 2 p.c.; book and writing paper 2 p.c.; and tissue and miscellaneous papers the remainder.

In the past few years there has been a tendency in Canadian paper mills toward the further conversion of many of these basic papers and boards into more highly manufactured products such as napkins, towels, packaged toilet papers, coated and treated papers, envelopes, stationery, and other cut paper and boards. Figures covering this conversion are not included here.

Production of	Newsprint	and Other	Paper in	Canada,	1929-37
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	Newspri	nt Paper	Other	Paper ¹	Total Paper	
Year	Quantity	Value	Quantity	Value	Quantity	Value
	tons	8	tons	\$	tons	\$
1929 1930 1931 1931 1932 1933 1933 1935 1935 1937	2,725,331 2,497,952 2,227,052 1,919,205 2,021,965 2,604,973 2,765,444 3,225,386 3,673,886	86,811,460	428,835 384,173 371,562 397,455 464,543 515,452 581,943	42,189,095 37,123,991 32,210,252 28,333,271 29,730,374 34,080,765 37,316,185 41,217,401 49,461,120	2,926,787 2,611,225 2,290,767 2,419,420 3,069,516 3,280,896 3,807,329	120,892,225 129,078,386

¹ Includes book and writing paper, wrapping paper, paper boards and other paper products.

The Canadian production of paper has increased over five times in the period from 1917 to 1937, in spite of the decreases in 1921, 1930, 1931, and 1932. Practically all the different kinds of paper used in Canada at the present time can be produced in Canadian mills.

Canada's newprint production in 1937 was nearly four times that of the United States, a few years ago the world's chief producer.

The latest monthly figures of Canadian newsprint production are:—

1938— January		1938— May		1938— September	
February	202,601	June July	201,694	October November	254,872
April		August		December	

Trade in Newsprint and Other Forest Products.—A striking reflection of the increased production of newsprint between 1910 and 1937 is seen in

the trade figures. The export trade in paper did not develop until the beginning of the present century. By 1910, however, the exports of newsprint paper were valued at over \$2,000,000; in 1920 they were valued at over \$53,000,000, and even during the subnormal fiscal year 1933-34 Canada exported 2,024,057 tons of newsprint valued at \$73,238,482. For the fiscal year 1937-38 the exports were 3,190,790 tons valued at \$120,007,550. This single item of export thus, at present, ranks second only to wheat. Canadian newsprint is exported to more than thirty countries and our total exports are greater than those of the rest of the world combined.

At the time of Confederation forest products exported were largely in an unmanufactured state, such as logs and square timber, and made up over 41 p.c. of the total export trade. To-day, while the wood and paper group forms a smaller part of the total (about 23·7 p.c. for the fiscal year 1937-38), its character has changed. Fully or chiefly manufactured goods now form 69 p.c. and unmanufactured or partly manufactured, 31 p.c. Raw materials form only a small part of the total.



Courtesy, Publicity Division, Department of Trade and Commerce, Ottawa.

CHAPTER V

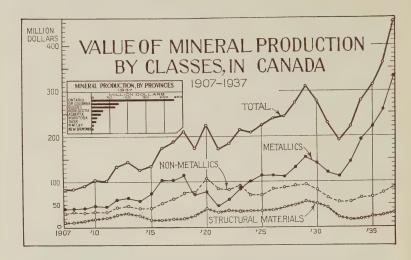
MINES AND MINERALS

The Growth of Mineral Production in Canada.—Records of Canada's mineral production are available back to 1886. In that year the total value of the mineral output amounted to little more than \$10,000,000; at the turn of the century this had increased to \$66,000,000, or nearly seven-fold, mainly as a result of the gold discoveries of Yukon. Notwithstanding occasional reverses in trend, the widespread exploration and scientific development of mineral deposits combined with technological advances in milling and metallurgy resulted in an almost continuous increase in output of metals up to 1929, in which year the Canadian mineral production was appraised at over \$310,000,000. Since the depression low of 1932, the growth in the mining industry in Canada has been unparalleled and in the past four years has exceeded 1929, establishing new annual records for the quantities of most metals produced in the Dominion. Production in 1937 reached \$457,359,092; the estimated production for the first six months of 1938 is given on p. 52.

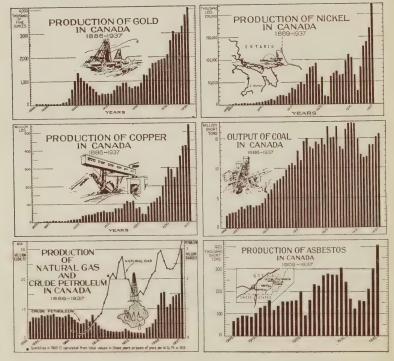
Canada, according to the latest statistics available, has \$860,000,000 of capital employed in her mining industry which includes the production of metals, coal, oil, gas, asbestos, gypsum, salt, and various other non-metallic minerals and structural materials such as brick, cement, lime, sand and gravel, and stone. About 91,000 employees receive in salaries and wages \$117,000,000 annually, and the welfare of many more thousands employed in the manufacture of explosives, chemicals, machinery, and textiles, in agriculture, and in transportation services depends to a very large extent upon the growth of this great basic industry.

Metallics.—The greater part of Canadian metal production comes from the Precambrian Shield and the Cordilleran region of British Columbia. A considerable proportion of the rocks comprising these areas are drift-covered and still unprospected, yet the profitable exploitation of known Canadian mineral deposits, largely within the past decade, has firmly established Canada in a high position among the leading mineral-producing countries of the world; especially with regard to gold, silver, and the industrial non-ferrous metals, all of which she produces in relatively large quantities. Out of every one hundred dollars worth of gold brought to the surface in 1937, Canada supplied eleven dollars worth. Canada has a virtual monopoly of nickel, her mines yielding 90 p.c. of the world production; she supplies more than half of the platinum metals; 12 p.c. of the copper and lead; and 10 p.c. of the zinc. Among all countries, Canada stands first in the production of nickel and of platinum; second in radium; third in gold, copper and zinc; and fourth in lead.

The history of the production of gold in Canada, as in every country, is most colourful. Early production was generally from placer deposits and the discovery of gold about 1860 in the rivers of British Columbia attracted world-wide attention to the mineral possibilities of that province and influenced, to a considerable degree, the decision to build a transcontinental railway uniting British Columbia with its sister provinces to



QUANTITY PRODUCTION OF THREE LEADING METALLIC AND THREE NON-METALLIC MINERALS



the east. The lode gold mines of this same province brought about the opening of the country along the southern boundary and the smelting of these ores was followed by the building of the Crowsnest Pass railway in 1898, a transportation link designed for the haulage-of smelter fuel.

Next in the sequence of more important gold-mining developments was the discovery and development of the Klondike placers in 1896. There was considerable activity in the eastern Precambrian areas at the same time. Cobalt, found when the Temiskaming and Northern Ontario railway was built in 1903, provided the incentive and money for the development of the Porcupine gold area which was discovered in 1909. The development of the Kirkland Lake gold camp followed soon after (1911), then the mines of northwestern Quebec and central Manitoba, and, more recently, the auriferous lodes in the vicinity of Great Slave lake in the Northwest Territories, lake Athabaska in Saskatchewan, and Zeballos on the west coast of Vancouver island, British Columbia.

With the exception of the War years of 1917 and 1918, and several years thereafter (years of high costs), production of gold grew steadily until 1932, when the value of output was nearly double that of 1926. Between 1931 and 1934 gold advanced in price from \$20.67 per fine ounce to \$35; this permitted the mining of lower-grade ores and consequently proved an incentive to prospecting (in Canada the grade has fallen from 0.42 fine ounce per ton in 1932 to 0.29 fine ounce per ton in 1936). For a year or two, the actual output in fine ounces was less; however, concurrently with this, new mines were found and equipment at the older properties was enlarged. These factors resulted in a record output in 1935 and each year since has established a new high. In 1937 the value of the gold output was more than 42 p.c. of the total value of all metals produced and 31 p.c. of the value of all metals and minerals produced.

The years from 1930 to 1935 will probably be considered by the historian of the future as being one of the most interesting and significant periods in the history of gold. During these years Great Britain, the United States and several continental European countries went off the gold standard; as stated above, there were increases in the price of the metal from the old standard value of \$20.67 to \$35; and an expansion in world gold production of approximately 61 p.c. The value of the world's monetary stocks of gold, expressed in United States currency, increased from \$9,277,662,000 to \$21,682,313,000, or from about \$4 to \$10 per (world) capita from 1925-35. Paradoxical as it may appear, the index of world wholesale prices declined almost steadily from about 250 in 1925 to less than 150 in 1933—this in conjunction with a very rapidly increasing gold production. Since 1933, however, the index has risen to over 200.

Silver production reached its peak during the Cobalt boom—the peak year being 1910, seven years after the discovery of the camp. Canada, however, still produces substantial amounts, the famous Sullivan leadzinc mine in British Columbia accounting for more than six million ounces annually and the nickel-copper ores of Sudbury, two million ounces. Production last year reached twenty-three million ounces and came from various sources, for silver is associated with almost every economic metalliferous ore mined in Canada—from the gold ores of Nova Scotia to the radium-uranium ores of the Northwest Territories.

Copper has had an interesting history in Canada. In 1848 the Montreal Mining Company commenced operations at Bruce Mines in Ontario, while early production in the '60's came from a mine in Quebec, a property which is still producing. Later, interest shifted to the boundary country of British Columbia and Rossland (closed down for some years), then to the nickel-copper deposits of the Sudbury district, Ontario, the ores of which were extremely difficult to treat at that time but which, to-day, supply nearly 60 p.c. of Canada's total copper production. The Anyox camp in the Portland Canal area of British Columbia produced the metal from 1912 to 1935; cessation of operations at Anyox, however, has been largely compensated for by the re-opening of the Copper Mountain mine at Allenby. The discovery of the Horne (Noranda) ore body gave birth to a high-grade copper mine which has developed also into the third largest individual gold producer in Canada and the greatest economic factor in the successful development of mining in northwest Quebec. The opening up of the Flin Flon deposit in Manitoba gave to that province a definite and important status as a producer of copper. Lending stability to the industry on the Pacific coast is the Britannia mine, a property representing almost the extreme western rim of Canada's far flung mineral domain. All these mines give direct support to urban centres and the increased purchasing power they provide is widely spread and of ever increasing value in the economic life of the nation. A few years ago practically all of Canada's copper was refined outside Canada; to-day, however, not only is a large percentage of Canadian production refined within the Dominion, but a considerable quantity is fabricated before leaving the country.

In the case of lead and zinc, the Sullivan mine in British Columbia has placed Canada in an enviable position among the world producers of these allied metals. At first the ore was difficult to treat but tenacity of purpose and technical research finally resulted in the creation and development of the now great metallurgical and chemical industries of the Consolidated Mining and Smelting Company of Canada.

Production of nickel is reaching new peaks each year and new uses are continually being found for this metal. Incidentally, it should be mentioned that platinum metals occur with nickel ores, and it is the increase in the production of nickel that has resulted in placing Canada in first place among the world producers of platinum.

Radium is another Canadian-produced element that should be mentioned. Pitchblende was found by Gilbert Labine close to the Arctic Circle in 1930. The refining of this ore and the extraction of radium is now an established industry in Canada and Canadian production is making this rare element available to hospitals at prices substantially lower than those formerly prevailing.

Fuels.—Coal.—Probably no subject presents a problem of greater general public interest in Canada than that of fuel supply. Two main causes have brought about this effect—disruption or sudden limitation of supplies from other countries and an ever-growing national appreciation of the value and extent of Canada's own coal resources.

The fuel situation in Canada is somewhat anomalous as, in spite of the enormous resources of coal in the country, about 50 p.c. of the consumption is imported. The Canadian coal areas are situated in the eastern and western provinces, while Ontario and Quebec are more easily and economically supplied with coal from the nearer coalfields of Pennsylvania and Ohio. The movement of soft coal from the Maritime Provinces, however, has been accelerated through the generous assistance provided by the Dominion Government in the form of subventions; during 1937, 1,912,671 tons were shipped to Quebec and eastern Ontario under Government-assisted rates.

New Brunswick's bituminous coal demands are satisfied principally by her own and by Nova Scotia coal mines. Great Britain and the United States supply the larger part of the anthracite requirements of Eastern Canada although supplies are also received from Germany, Russia, and Belgium. In May, 1937, the first importation of Russian anthracite coal into Canada since 1930 was recorded.

Only Alberta among the Prairie Provinces is self-sufficient in coal requirements. The mines of Alberta also ship approximately 2,000,000 tons per year to Saskatchewan and Manitoba.

British Columbia's coal industry has suffered to a considerable extent from fuel-oil competition. Mines within the province supply the bulk of the coal consumed. Only minor tonnages are imported from other countries, but an increasing quantity is received annually from the neighbouring province of Alberta. The provincial output in 1937, while higher than in the preceding year, was only 48 p.c. of the 1910 total.



McLeod Well No. 2, Turner Valley, Alberta.

Courtesy, Department of Trade and Industry, Alta.

Petroleum and Na-Gas.—Canada's tural petroleum industry dates back to 1858 when the original discovery was made at Oil Springs, Ontario. Canadian production is now derived from the Stoney Creek field New Brunswick. fields in southwestern Ontario, the Turner Valley, Red Coulee and Wainwright fields in Alberta, and the Fort Norman field in the Northwest Territories.

The Turner Valley field in Alberta is the principal source of the

Canadian output and production from this province rose from 1,312,368 bbl. in 1936 to 2,749,085 bbl. in 1937, an increase of 109 p.c. The increase in 1937 was due to the successful drilling into production of new wells in the west flank at the south end of Turner Valley. Light crude oil was produced from these wells and although the initial output was large it was materially increased after the wells were acid-treated. Altogether a crude

oil area three miles long and three-quarters of a mile wide has been proven in the southern end of the west flank of this field. In addition, a proven crude oil area exists in the north end of the field, 14 miles distant. During 1937 drilling operations were in progress on 86 wells in Alberta and approximately 288,000 ft. were drilled. Twenty-eight wells came into production in 1937. Because of the large increase in output the refineries found it necessary to reduce their purchases and prorationing of production became necessary. The Turner Valley field produces, in addition to light crude oil, large quantities of casing-head gasoline. Separators and absorption plants are employed to recover this fuel from its natural-gas carrier. Despite the increased activity in the Canadian primary oil industry, this country still depends largely on outside sources—chiefly the United States, Colombia, Peru, and Venezuela—for its crude supplies.

Nature has endowed certain sections of Canada with abundant supplies of natural gas. The Stoney Creek field in New Brunswick, the Essex Peninsula field in Ontario, the Lloydminster field in Saskatchewan, and the Turner Valley, Viking, Medicine Hat, Wainwright, and Border fields in Alberta are the principal productive areas at the present time. The New Brunswick gas supplies Moncton and Hillsborough. Ontario's gas serves over 119,000 industrial and domestic users. The Saskatchewan gas is consumed in the town of Lloydminster. The Turner Valley wet gas, after treatment, is piped into Calgary and surrounding points. Some of this gas is used in the field for drilling purposes, some is conveyed to the Bow Island field to repressure old wells, and large quantities, for which there is no use, are burned in the field. The Medicine Hat field supplies gas to the city of that name. The Viking field is the source of gas supply for Edmonton and points outside. Gas from the other fields supplies chiefly local demands.

Other Non-Metallics.—Asbestos.—Canada produces more asbestos than any other country and practically all of Canada's output comes from the Eastern Townships of Quebec. The fibre is of good quality and well adapted for spinning. Both open-cut and underground methods of mining are employed. The production in 1937 amounted to 410,026 tons and had a value of \$14,505,791.

Salt.—This mineral ranked second among the "other non-metallics" or industrial minerals in 1937, with a production valued at \$1,890,376. The greater part of the Canadian salt production comes from wells located in southwestern Ontario, but the Malagash deposits in Nova Scotia show an increasing production in recent years. The first production of commercial importance in Manitoba was recorded in 1932 and for Saskatchewan in 1933. Some shipments have been made from deposits near McMurray in Alberta. Between 40 and 50 p.c. of Canadian salt production is used in the form of brine in chemical industries for the manufacture of caustic soda, liquid chlorine and other chemicals.

Gypsum.—This is third in importance in this group, the output in 1937 being valued at \$1,540,483. Many large deposits of gypsum occur throughout Canada, but the production is chiefly from Hants, Inverness, and Victoria Counties, Nova Scotia; Hillsborough, New Brunswick; Paris, Ontario; Gypsumville and Amaranth, Manitoba; and Falkland, British Columbia. The Hillsborough deposit of gypsum in New Brunswick is of

very high grade. Nearly 50 p.c. of Canada's production is exported in crude forms from the Nova Scotia deposits, which are conveniently situated for ocean shipping and account for about 75 p.c. of the total Canadian production.

In addition to these outstanding minerals there is a substantial annual production of other non-metallics, as will be seen from the table on p. 52.

Clay Products and Other Structural Materials.—This group of products, while of much less importance, economically, than either the metallics or the non-metallics, nevertheless comprises many products which are of fundamental importance in internal trade and in the construction industries. Total production in 1937 was valued at \$34,869,699, cf which stone, sand and gravel, and slate made up about 50 p.c. (\$17,432,056) and cement about \$9,000,000.

Production During the First Six Months of 1938.—Canada's mineral production during the first six months of 1938 was valued at \$209,-654,610 compared with \$215,382,814 during the same period of the previous year. Gains were recorded in the output of most of the base metals but lower prices for copper, lead, and zinc, along with a lessened production of several important non-metallic minerals, combined to reduce the total value of the production 2·7 p.c. Gold mining, however, continued to expand and the increase in production, together with the remarkable advance in crude oil production in the Turner Valley field of Alberta, tended greatly to offset the drop in value of some of the other products.

Metallics.—In the metals group gains in output were recorded for copper, gold, lead, platinum metals, selenium, silver, and zinc, but in value of production only gold and silver showed an increase over the first six months of 1937. The gold mining industry continued to expand; new fields are being developed and properties which were shut down when the price of gold was \$20.67 per fine ounce are being rejuvenated under the new price with remarkable success. The aeroplane has been of no small assistance in the development of new properties, particularly at Zeballos on the west coast of Vancouver island, in the Northwest Territories, and in the more remote areas of Saskatchewan, Manitoba, Ontario, and Quebec. The output of copper was greater in every province and the discovery of new ore bodies in the Waite-Amulet mine in western Quebec is one of the outstanding developments of the period. Nickel production was slightly less; lead output increased 3 p.c., the mines of British Columbia accounting for 99 p.c. of the total. Zinc output was higher and the metals of the platinum group were also increased.

Non-Metals.—Coal production decreased 2 p.c. Coal output from Nova Scotia mines was slightly greater for the period under review but the other coal-producing provinces showed a falling-off. An advance of 175 p.c. was recorded in the output of crude petroleum and natural gasoline in Canada. Increased production in the Turner Valley field, Alberta, was responsible for this gain. During the first half of 1938, 18 new wells were completed in this field and on June 30 drilling operations were in progress on 22 other wells. Natural gas production increased 16 p.c.

Non-metallics, other than fuels, showed a loss in value of output of 13 p.c. Asbestos production dropped 33 p.c., gypsum was less by 12 p.c., but salt output was higher by 2·39 p.c. Sulphur production was greater

Mineral Production, calendar year 1937, and Official Estimate January to June, 1938

Item	19	37	Six m January to	
20022	Quantity	Value	Quantity	Value
METALLICS fine oz.	4,096,213 22,977,751 224,905,046 530,028,615 411,999,484 370,337,589 259,206	\$ 84, 676, 235 58, 650, 258 10, 312, 644 59, 507, 176 68, 917, 219 21, 053, 173 18, 153, 949 9, 932, 598 2, 961, 991	2, 219, 309 10, 532, 011 109, 286, 472 292, 396, 871 204, 961, 121 197, 951, 223 130, 077	\$ 45,877,187 32,087,138 4,622,605 28,559,696 27,765,202 6,956,380 6,154,303 3,978,828 1,123,425
$\mathrm{Totals}_{^{1}}$	_	334, 165, 243		157, 124, 764
Non-Metallics $Fuels$				
	15,835,954 32,380,991 2,943,750 478	48,752,048 11,674,802 5,399,353 2,676	6,907,209 17,985,532 2,919,425	21,088,912 6,469,546 5,285,332
Totals		65,828,879	-	32,843,790
Other Non-Metallics Asbestos ton Feldspar ton Gypsum ton Magnesitic dolomite Quartz² ton Salt ton Sodium sulphate ton Sulphur² ton Talc and soapstone Other non-metallics	410,026 21,346 1,047,187 -1,377,48 458,957 79,884 130,913	14, 505, 791 178, 222 1, 540, 483 677, 207 1, 129, 011 1, 799, 465 618, 028 1, 154, 992 163, 814 728, 258	132, 291 5, 648 330, 607 710, 254 213, 815 28, 460 58, 930	5,757,453 52,238 565,495 261,905 420,988 835,684 211,375 577,011 54,546 205,283
Totals		22,495,271	-	8,941,968
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products (brick, tile, sewer pipe, pottery, etc.). Cement. bbl. Lime. ton Stone, sand, gravel, and slate	6, 168, 971 549, 353	4,516,859 9,095,867 3,824,917 17,432,056	2,167,461 224,763	1,564,088 3,215,000 1,565,000 4,400,000
Totals	-	34,869,699	_	10, 744, 088
Grand Totals ¹	\	457,359,092	_	209,654,610

¹ Production of radium-bearing ores not included. Figures not available for publication, ² Includes silica sand used for smelter flux. ³ In sulphuric acid made and in pyrites shipped.

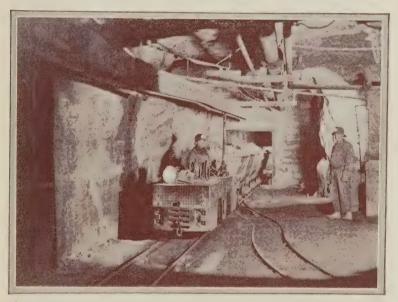
Mineral Production of Canada, by Provinces, 1935, 1936 and 1937

Province	1935		1936		1937	
or Territory	Value '	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
Nova Scotia. New Brunswick. Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia. Yukon. Northwest Territories!	\$ 23,183,128 2,821,027 39,124,696 158,934,269 12,052,417 3,816,943 22,289,681 48,692,050 1,302,308	$\left.\begin{array}{c} 7 \cdot 4 \\ 0 \cdot 9 \\ 12 \cdot 5 \\ 50 \cdot 9 \\ 3 \cdot 9 \\ 1 \cdot 2 \\ 7 \cdot 1 \\ 15 \cdot 6 \\ \end{array}\right.$	\$ 26,672,278 2,587,891 49,736,919 184,532,892 11,315,527 6,970,397 23,305,726 54,407,036 2,220,372	$\left.\begin{array}{c} 7 \cdot 4 \\ 0 \cdot 7 \\ 13 \cdot 8 \\ 51 \cdot 0 \\ 3 \cdot 1 \\ 1 \cdot 9 \\ 6 \cdot 4 \\ 15 \cdot 0 \\ \end{array}\right.$	\$ 30,314,188 2,763,643 65,160,215 230,042,517 15,751,645 10,271,463 25,597,117 73,555,798 3,784,528	$\left.\begin{array}{c} 6\cdot 6 \\ 0\cdot 6 \\ 14\cdot 3 \\ 50\cdot 3 \\ 3\cdot 4 \\ 2\cdot 2 \\ 5\cdot 6 \\ 16\cdot 1 \\ \end{array}\right.$
Totals1	312,344,457	100.0	361,919,372	109 - 0	457,359,092	100.0

¹ Production of radium-bearing ores not included. Figures not available for publication,

also but many of the other non-metallics showed decreased outputs. The value of the production of structural materials including clay products, cement, lime, stone, and sand and gravel, was estimated at \$10,744,088, a decrease of 4 p.c. when compared with the corresponding period of 1937.

Nine-Month Production of Principal Metals.—Gold production has continued its upward trend. Output during the first nine months totalled 3,460,693 fine ounces compared with 3,021,340 fine ounces during the corresponding period of 1937. Of the 1938 total, Ontario mines produced 61·8 p.c.; Quebec, 18·5 p.c.; British Columbia, 12·8; Manitoba and Saskatchewan, 5·0 p.c.; Yukon and Northwest Territories, 1·3 p.c., and the remainder from Nova Scotia and Alberta. Production from each province was greater during the nine months of 1938 than during the corresponding period of 1937 and reflected the widespread growth and activity in this primary Canadian industry.



Train of Ore Cars passing through a Fire Door on the 800 ft. Level of the Hollinger Gold Mine, Timmins, Ontario.

Courtesy, Canadian Government Motion Picture Bureau.

Copper production at 441,216,461 pounds marked an increase of 17 p.c. over the first nine months of 1937. Prices during the third quarter of the year were slightly higher than the average for the first six months. Nickel production at 159,863,075 pounds during the same period dropped about 4 p.c. Lead output at 319,467,899 pounds was greater by 3 p.c. and zinc at 285,217,930 pounds was also slightly higher than that of the first nine months of 1937.

Silver production was lower than during the same period of 1937; the totals were: 17,103,554 fine ounces and 17,920,031 fine ounces, respectively.

Base metal prices during the period under review were generally lower.

CHAPTER VI

THE FISHERIES OF CANADA

Fishing is one of the earliest and most historic industries in Canada. In 1497 Cabot discovered the cod banks of Newfoundland when he first sighted the mainland of North America, and Fernandez de Navarette mentions in his records the French, the Spaniards and the Portuguese as frequenters of the "Grand Banks" before 1502. Cape Breton, one of the earliest place names in America, takes its name from early French fishermen. The fishing then was by hand lines over barrels attached to the bulwarks to prevent fouling, the vessels remaining during fine weather and then returning to France with their catches. Voyages along the coast soon showed the cod as plentiful inshore as on the outer banks and it



Part of the Vancouver Fishing Fleet at Dock in the Mountain-Walled Harbour.

Courtesy, Vancouver Island Tourist Association.

became common for a crew to anchor in a bay, erect a hut on shore and make daily excursions to the fishing grounds, the product being salted and dried on land and at the end of the season shipped to France. Soon the fishermen began to remain all winter and thus permanent fishing settlements were established. Until the arrival of the United Empire Loyalists, the cod fishery was the only one systematically prosecuted, and attention had been given to the shore fishery alone. No deep-sea fishing vessel put out from Lunenburg (now the chief centre of the deep-sea fishery) until 1873.

Canada has perhaps the largest fishing grounds in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. The Pacific coast of the Dominion measures 7,180 miles in length, and inland lakes contain more than half of the fresh water on the planet. Canada's share of the Great Lakes alone has an area of over 34,000 square miles.

Canada's list of food fishes embraces nearly 60 different kinds, chief among which are the salmon, the lobster, the cod, the herring, the whitefish, the halibut, the haddock, the pickerel, and the trout.

The Government and the Fisheries

At the present time the Dominion Government controls the tidal fisheries of the Maritime Provinces and British Columbia and the fisheries of the Magdalen islands in Quebec province. The non-tidal fisheries of the Maritime Provinces, Ontario, and the Prairie Provinces and both the tidal and non-tidal fisheries of Quebec (except the Magdalen islands) are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion Government. The fisheries under the control of the Dominion Government are administered by the Department of Fisheries, which was created as a separate department in 1930. A large staff of inspectors, guardians, and supervisors is employed to enforce the fishery laws, and a fleet of vessels patrols the coastal and inland waters to prevent poaching and to assist in the carrying out of the regulations. The main object of legislation has been the prevention of depletion, the enforcement of close seasons, the forbidding of pollutions and obstructions and the regulation of fishing operations generally. Stations under the direction of the Fisheries Research Board of Canada (formerly the Biological Board) for the conduct of biological research are established at Halifax, N.S., St. Andrews, N.B., Nanaimo and Prince Rupert, B.C., and in Gaspe County, Que. A marine biological station, chiefly for oyster investigation work, is conducted at Ellerslie, P.E.I., and a substation for salmon investigation at Cultus Lake, B.C. The Fisheries Research Board employs a permanent staff of scientists. Other aids to the industry inaugurated by the Government may be mentioned. Most of the fishing vessels are equipped with radio receiving sets and a system is now in operation for broadcasting radio reports as to weather probabilities, bait and ice supplies and ice conditions along the coast. Educational work is carried on by permanent officers of the Department of Fisheries in instructing the fishermen in various areas as to the best methods of handling and processing their catches, and in bringing to the attention of the public the value of fish as a food. By an Act of 1882 (45 Vict., c. 18) for the development of the sea fisheries and the encouragement of boat building, provision was made for the distribution among fishermen and the owners of fishing boats of \$150,000 annually in bounties, representing

the interest on the amount of the Halifax Award. An Act of 1891 (54-55 Vict., c. 42) increased the amount to \$160,000, the details of the expenditure being settled each year by Order in Council.

By Parliamentary vote the sum of \$300,000 was made available for use by the Department of Fisheries during the fiscal year 1937-38 to aid, in co-operation with the provinces concerned, in the re-establishment of needy fishermen. Four provinces—Nova Scotia, New Brunswick, Prince Edward Island, and Quebec—entered into agreements with the Dominion authorities in carrying out the purpose of this vote. In each of the four the Department of Fisheries spent two dollars for each dollar spent by the Provincial Government in direct aid to fishermen who were in need of assistance and the total spendings from the departmental appropriation



Drying Fish Along the Shore, Fox River, Gaspe Peninsula, Quebec.

Courtesy, Canadian Government Motion Picture Bureau.

were \$218,004. In Quebec 8,930 grants were made to fishermen. In the Maritime Provinces and the Magdalen islands the plan adopted was to make loans to fishermen and associations of fishermen: the total number of these loans to fishermen was 9,176 and to fishermen's associations, 28.

In further effort to aid the fishermen, in this case by expanding the demand for their products, large-scale advertising was continued by the Department of Fisheries during the fiscal year. In the main, the advertising was carried on within the Dominion, but \$15,000 was used in the United Kingdom, with the particular object of increasing sales of Canadian canned lobster and canned salmon. In Canada many publications of different classes were used in the campaign, which extended to all parts of the country and directed attention to the merits of Canadian fish foods.

The Modern Industry

The latter half of the nineteenth century saw the commencement of expansion in the commercial fishing industry of Canada. In 1844 the estimated value of the catch was only \$125,000. It doubled in the following decade and by 1860 had passed the million mark. Ten years later it was \$6,000,000 and this was again more than doubled in 1878. By 1900 it had reached a total of \$21,000,000 and the growth continued with little interruption until 1918, when it reached the high record of \$60,000,000. Since then there have been decreases, but these are due to lower prices rather than to any decrease in the quantity of the catch. In 1937 the value was \$38,976,294. It will be understood that the figures given represent the total value of the fish marketed, whether in a fresh, dried, canned, or otherwise prepared state. Meanwhile the number of employees has increased in like proportion, amounting in some years to over 90,000, while the capital investment has gone as high as \$64,000,000. In 1937 employees numbered 84,025, and capital investment, \$44,926,764.

The salmon fishery of British Columbia gives to that province first place in respect to value of production, the position which in earlier times belonged to Nova Scotia on account of her cod fishery. Nova Scotia is now second with regard to value of output, with New Brunswick third and Ontario fourth. Lobstering on the Atlantic coast is second in value only to the salmon fishery of the Pacific. Lobstering commenced about the year 1870 with three canneries and has expanded until it is now the largest fishery of the kind in the world. In 1937 the lobster canneries numbered 277 and gave work to more than 5,000 people; 30,000,000 lobsters is a normal catch. In New Brunswick the canning of sardines, which are young herring and not a distinct type of fish, has, during the past four years exceeded in importance the lobster industry. There are only 3 sardine canneries in the province, but they are of large capacity, and gave work in 1937 to more than 600 people. The salmon canneries of the Pacific numbered 37 and gave employment to nearly 5,000 persons. There are a few salmon canneries on the Atlantic coast, but their output is comparatively small. The fish-canning and -curing industry is connected entirely with the sea fisheries, the plants being scattered along the coasts in locations of easy accessibility to the fishermen in delivering their catches.

Production of the Fisheries, by Provinces, 1914, 1936, and 1937

Province or Territory	Values of Production			Percentages of Total Values		
Frovince of Territory	1914	1936	1937	1914	1936	1937
Prince Edward Island. Nova Scotia New Brunswick Quebec. Ontario. Manitoba. Saskatchewan Alberta. British Columbia. Yukon. Totals.	\$ 1,261,666 7,730,191 4,940,083 1,924,430 2,755,291 849,422 132,017 86,720 11,515,086 69,725 31,264,631	\$ 953,029 8,905,268 4,399,735 2,108,404 3,209,422 1,667,371 367,025 309,882 17,231,534 13,385 39,165,055	\$ 870,299 9,229,834 4,447,688 1,892,036 3,615,666 1,796,012 527,199 433,354 16,155,439 8,767	p.c. 4·1 24·7 15·8 6·2 8·8 2·7 0·4 0·3 36·8 0·2	p.c. 2·4 22·7 11·3 5·4 8·2 4·3 0·9 0·8 44·0 0·0	p.c. 2·2 23·7 11·4 4·9 9·3 4·6 1·4 1·1 41·4 0·0

Fisheries Production, by Principal Kinds, 1936 and 1937

(Each over \$1,000,000 in value, and arranged by value in 1937)

	19	936	- 1937	
Kind	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
	cwt.	- \$	cwt.	\$
Salmon. Lobster Cod Herring Whitefish Halibut Sardine Haddock Pickerel	283,273 1,699,974	13,867,513 4,383,428 3,331,750 2,576,533 1,525,700 1,441,310 1,598,562 1,291,905 1,109,397	1,724,213 309,950 1,523,626 3,057,503 173,675 150,583 159,481 388,823 143,020	12, 370, 219 4, 633, 429 3, 140, 230 2, 556, 883 1, 887, 889 1, 598, 190 1, 526, 505 1, 296, 313 1, 043, 532

Capital Invested and Employees Engaged in the Fisheries, 1935-37

Item	1935	1936	1937
CAPITAL	\$	\$	\$
Vessels, boats, nets, traps, etc Fish-canning and -curing establishments	26,473,082 17,144,806	27, 217, 250 18, 614, 592	26, 796, 379 18, 130, 385
Totals, Capital	43,617,888	45,831,842	44,926,764
Employees ,	No.	No.	No.
On vessels and boats, and in fishing without boats In fish-canning and -curing establishments	68,557 14,361	71,735 15,238	69,981 14,044
Totals, Employees	82,918	86,973	84,025

Export Trade in Fish.—The domestic consumption of fish is relatively small in Canada, and the trade depends largely upon foreign markets. From 60 to 70 p.c. of the annual catch is an average export, of which the United States takes approximately one-half and the United Kingdom one-fourth. In the calendar year 1937, total exports amounted to \$28,902,152, of which \$14,004,575 went to the United States and \$6,721,764 to the United Kingdom: analysed in another way, \$11,178,572 went to British Empire countries and \$17,723,580 to foreign countries. The most important single export is canned salmon (to the United Kingdom and European markets), followed by fresh lobster, canned lobster, fresh whitefish, fresh salmon (to the United States), and dried cod (to the West Indies, South America, etc.). For fresh fish the United States is the chief market.

Game Fish.—The foregoing is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche and other rivers of the Maritime Provinces; the black bass and speckled trout of the Quebec and Ontario highlands; the red trout of the Nipigon and the salmon and rainbow trout of British Columbia. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundreds of guides find employment in this field during the summer months.

CHAPTER VII

THE FUR TRADE



Loading Bales of Furs into a Warehouse in Northern Canada. Courtesy, Hudson's Bay Company.

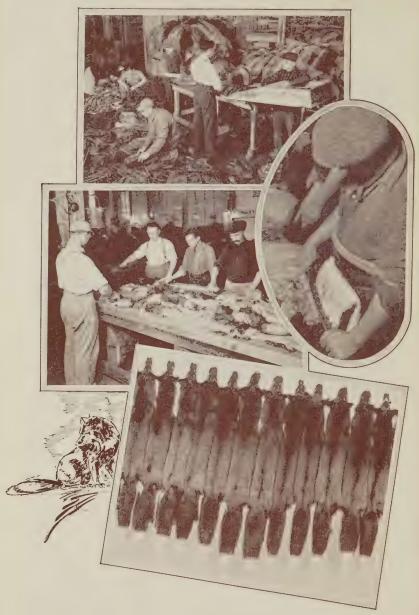
Great changes have taken place in the fur trade since the early days when it dominated all other pursuits and was the incentive for the exploration which led to the opening of the vast territories to the west and the eventual settlement of the country. The advance of agricultural settlement, lumbering, and mining has driven animals fur-bearing farther and farther afield, and this expulsion from their former range, combined with the improved methods now used in the capture of the animals. has caused serious depletion in the numbers of the various kinds. To deal with this loss the various Provincial

Governments, in co-operation with the Dominion authorities, have inaugurated a policy of conservation, and have passed laws under which provision is made for close seasons, for the licensing of trappers and traders, for the collection of royalties on pelts, and for the regulation of the methods to be employed in trapping the animals. The annual value of the raw-fur production of Canada shows no decline, but this is due to the establishment of the fur-farming industry, which produces each year large numbers of pelts, chiefly silver fox and mink.

Commencing with the year 1881, records of the value of raw-fur production were obtained in the decennial censuses, but from 1920 the Dominion Bureau of Statistics has issued annual reports, these reports at first being based on returns supplied to the Bureau by the fur traders, but more recently prepared from statements furnished by the provincial game departments, which are based on returns of royalties, export tax, etc. In 1881 the value of pelts taken was \$987,555; by 1910 it had become \$1,927,550; and in the season 1920-21, \$10,151,594.

According to advance figures, the value of Canada's production of raw furs in the season 1936-37 (12 months ended June 30, 1937) is placed

PROCESSING CANADIAN FURS



The upper picture shows furs as received by the processor, turned inside out and looking like dried fish; they are first carefully sorted and marked. In the second picture greases are being applied to the pelts to keep them soft and supple and inset at the side a 'flesher' is seen quickly and skilfully removing the remaining film of tissue and fat. At the bottom is shown a choice selection of finished silver-fox furs.

Courtesy, Canadian Industries Limited.

at \$16,666,375, compared with \$15,464,883 in the preceding season. These totals comprise the value of pelts of fur-bearing animals taken by trappers and pelts sold from fur farms, the value of the latter representing approximately 40 p.c. of the whole. The total for the season under review is the highest recorded since the season 1928-29.

The three principal kinds of furs were silver fox (\$5,986,410), muskrat (\$2,249,615) and mink (\$2,240,375). The value of the three kinds combined was \$10,476,400, or 63 p.c. of the total for all kinds. The number of silver fox pelts was 204,388, an increase over the preceding season of 19,129, but, owing to a reduction in the average price per pelt, the total value was less by \$121,784. The number of mink pelts, on the other hand, showed a decrease of 16,666, but the value increased by \$538,798. The number of muskrat pelts showed a slight decrease from the preceding season, but an increase was recorded in the total value. The average price for mink pelts advanced from \$11.03 in the season 1935-36 to \$16.28 in the season 1936-37, and the average for muskrat pelts from \$1.32 to \$1.40, while the average for silver fox pelts dropped from \$32.97 to \$29.29. Practically all the silver fox pelts are from the fur farms, while of the mink pelts, probably one-third may be credited to the farms. The highest priced fur was the fisher, with an average per pelt in the season 1936-37 of \$52.85, followed by lynx with an average of \$34.53. Both of these prices were advances over those of the preceding season.

The leading provinces with regard to value of raw-fur production were Ontario (\$2,987,713), Quebec (\$2,516,012) and Alberta (\$2,161,507). The relation which the value for each province bore to the total for Canada is shown in the following statement of percentages: Ontario, 17·9; Quebec, 15·1; Alberta, 13·0; Manitoba, 9·8; British Columbia, 8·5; Prince Edward Island, 8·3; Saskatchewan, 8·0; Northwest Territories, 6·6; Nova Scotia, 5·5; New Brunswick, 5·2; and Yukon, 2·1.

Numbers and Values of Pelts Taken, Seasons 1921-22 to 1936-37

Season	Number of Pelts	Total Value	Season	Number of Pelts	Total Value
1921-22 1922-23 1923-24 1924-25 1925-26 1926-27 1927-28 1928-29	4,366,790 4,963,996 4,207,593 3,820,526 3,686,148 4,289,233 3,601,153 5,150,328	16, 761, 567 15, 643, 817 15, 441, 564 15, 072, 244 18, 864, 126 18, 758, 177	1929-30. 1930-31 1931-32. 1932-33. 1933-34. 1954-35. 1935-36. 1936-371.	3,798,444 4,060,356 4,449,289 4,503,558 6,076,197 4,926,413 4,596,713 6,204,379	\$ 12, 158, 376 11, 803, 217 10, 189, 481 10, 305, 154 12, 349, 328 12, 843, 341 15, 464, 883 16, 666, 375

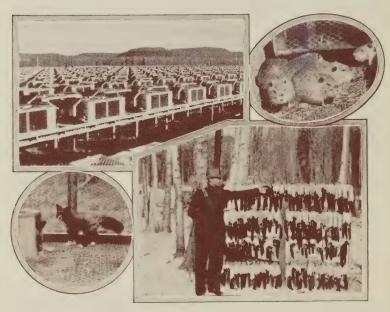
¹ Preliminary figures.

An important adjunct of the fur trade is the industry of fur dressing and dyeing. The work is chiefly on a custom basis, that is, the furs are treated for owners and a charge made according to the amount of work involved. The number of plants engaged in the treatment of furs during the year 1936 was 14, the number of skins treated 6,221,363, and the amount received for the work, \$1,516,762. There is also the fur goods industry, which supplies practically the entire quantity of fur goods—

coats, scarves, muffs, caps, gauntlets, etc.—consumed in the Dominion. This industry in 1936 provided employment for 3,153 persons, paid in salaries and wages \$3,371,366, and produced goods to the value of \$14,474,935. There were establishments from coast to coast to the number of 331, although the industry was centred chiefly in Quebec and Ontario.

Fur Farming.—Fur farming, which was commenced in Prince Edward Island towards the close of the past century, and has since spread throughout the Dominion, to-day occupies a position of large importance, whether regarded as a distinct industry or as a branch of agriculture.

In the early days of the fur trade it was the practice in Canada for trappers to keep foxes caught out of season alive until the fur was prime, and from this custom has arisen the modern industry of fur farming.



A large Ontario Fur Farm showing: Upper left.—Accommodation for housing 1,000 mink; each box has a mother and one or two kits. Lower right.—A collection of mink skins prepared for market. Inset, upper right.—Specimens of nutria, a South American swamp beaver which has been introduced into Canadian farms with fair success. Inset, lower left.—One of the newest fox types, the silver ring-neck.

Courtesy, Model Mink Farm Limited, Fort William, Ont.

Coming to a northern post with his season's harvest of furs, a trapper would occasionally bring a very beautiful fox pelt, black in colour, with silver tipped tail and scattered silver hairs, giving to the pelt a silver sheen, whence the name "silver" fox. The black or silver fox is a colour phase of the common red fox, and the beauty of its fur and the consequent high price to be realized from the sale of the pelt encouraged the carrying

out of experiments in breeding to fix this silver strain. Success came in the year 1894, when a litter of silver foxes was raised to maturity on a farm near Alberton, Prince Edward Island, and this province may claim to be the birthplace of the industry. Further successes advanced the industry, and in 1913 an enumeration by the Commissioner of Agriculture for Prince Edward Island showed 277 fox farms in the province, with a total of 3,130 foxes, of which 650 were silver. Meanwhile attempts at rearing foxes in captivity were also being made in other provinces, the records showing that foxes were successfully bred in Quebec in 1898, in Ontario in 1905, and in Nova Scotia in 1906. In 1912 and 1913 the Dominion Commission of Conservation conducted an exhaustive inquiry into the history and possibilities of fur farming in Canada, and the resulting data, published in 1913, gave an impetus to the industry. The pioneers of the fox-farming industry raised the foxes chiefly for the sake of the pelts, as high as \$2,600 being received for a single pelt of exceptional quality, and it was not until 1912 that there was any general sale of live foxes. With increased interest in fur farming came a large demand for foxes to be used as foundation stock in newly-established ranches. Fabulous prices were now obtainable for the live animals, sales of proved breeders in 1912 being recorded at from \$18,000 to \$35,000 per pair. The number of fur farms from this time forward rapidly increased, companies as well as individuals engaging in the business, and as larger numbers of foxes became available for sale, prices naturally declined. In 1919 the Dominion Bureau of Statistics commenced the annual collection of returns of fur farms, and the records for that year show 424 fox farms and 5 miscellaneous kinds of fur farms in Canada. The number of silver foxes on the farms in the same year was 7.181, of which 5.401 were credited to Prince Edward Island. Meanwhile the average price for a pair of silver foxes had dropped to around \$650, although prices as high as \$1,100 for a single fox are recorded. By 1936, the latest year for which statistics are available, the number of fox farms had mounted to 7,057, with a total of 155,320 foxes, of which 151,696 were classified as "silver". The demand for live foxes is not as great as in the earlier years when fur farming was in course of establishment, but there is an ever-present market for furs and the industry is now engaged in meeting the requirements of this market. In 1936 the value of the pelts sold represented 87 p.c. of the total revenue in that year.

The Dominion Department of Agriculture conducts, at Summerside, Prince Edward Island, an experimental fur farm for the study of matters affecting the health of fur-bearing animals, especially the silver fox, in capitivity, while in several provinces, also, government departments have branches whose activities are for the benefit of the fur-farming industry. Reports and pamphlets are issued from time to time, and the advice of the officers in charge of the work is always available to the fur farmer.

Statistics of Fur Farming.—The number of fur farms in operation in Canada in 1936, according to returns made to the Dominion Bureau of Statistics, was 8,142, an increase over the preceding year of 647. The total for 1936 included 7,057 fox farms, 912 mink farms, and 173 farms under various other classifications, as raccoon, marten, fisher, etc. The total

value of property was placed at \$16,935,316, of which \$7,097,036 was credited to the value of the land and buildings and \$9,838,280 to the value of the fur-bearing animals. The number of fur-bearing animals (exclusive of muskrat and beaver for which information is not available) born on the farms during the year 1936 was 296,480, an increase over the preceding year of 50,952. The principal kinds were silver fox, with a total of 221,905, and mink, with a total of 65,892. These two kinds, together, accounted for 97 p.c. of the total number of births. Compared with the preceding year the number of silver foxes born showed an increase of 36,917 or 20 p.c., and the number of mink an increase of 16,931, or 35 p.c. The value of the live fur-bearing animals sold from the farms during the year was \$830,772, of which the sales of silver foxes accounted for \$542,888, or 65 p.c., and the sales of mink for \$272,560, or 33 p.c. Compared with the preceding year the total value showed an increase of \$181,340, or 28 p.c. In the early years of the industry the sales of live animals made up the greater part of the fur-farm revenue, but this has been changed, and the sales of pelts now constitute the chief item. In 1936 the sales of pelts brought to the fur farmer the total amount of \$5,708,438, an increase over the preceding year of \$837,443, or 17 p.c. Average prices for nearly all kinds were either higher than in 1935, or stationary, the exceptions being silver fox, which dropped from \$34 per pelt in 1935 to \$30 in 1936, and nutria, which decreased from \$8 to \$2. The number of silver fox pelts sold was 162,999. This is the largest number recorded in the history of the industry and exceeded the previous high year (1935) by 33,998, or 26 p.c. Although the average price for silver-fox pelts was only \$30, sales at high prices were recorded for pelts of exceptionally good quality. The highest price recorded by the report of any farm in 1936 was \$185, and this amount was received by a farm in the Yukon Territory. The province of New Brunswick recorded the second highest price (\$175) while Ontario was third with \$155.

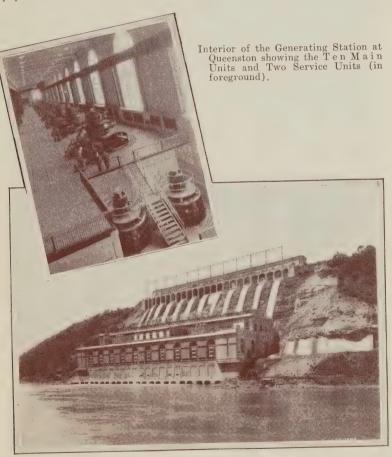
Export Trade in Furs.—The important markets for Canadian furs are London and New York; the trade tables for the 12 months ended June 30, 1937, show that of the value of raw furs exported, viz., \$18,529,254, the United Kingdom received \$10,384,268 and the United States \$7,217,087. At the close of the Great War, Montreal took a position as an international fur market, holding the first Canadian fur auction sale in 1920. At the sales held in Montreal during the year 1937 the pelts sold numbered 922,615 while the value amounted to \$5,666,991. Fur auction sales are held also at Winnipeg, Edmonton, and Vancouver.

In 1667 exports of furs to France and the West Indies were valued at 550,000 francs. In 1850, the first year for which trade tables of the Customs Department are available, the value of raw furs exported was £19,395 (\$93,872); for the year ended June 30, 1920, the value was \$20.417,-329; for 1925, \$17,131,172; for 1930, \$17,187,399; and for 1935, \$15,224,342. As seen from the 1936 figures quoted in the previous paragraph, the value of raw furs exported in that year showed an increase of more than 6 p.c. compared with 1935, but the proportion going to the United Kingdom fell by nearly 5 p.c.

CHAPTER VIII

THE WATER POWERS OF CANADA

Canada's water powers constitute one of her greatest natural resources. Their development has not only facilitated the growth of industry but has resulted in giving value to marginal products, which, without the low-cost power provided by water, would have remained unmarketable. This lowcost power has also resulted in the creation of entirely new centres of population for the manufacture of raw materials imported from abroad.



Queenston-Chippawa Power Development, Niagara River.—This generating station has a total capacity of 560,000 h.p. The Niagara Gorge at this point is more than 300 ft. deep and the operating head of water utilized at full load is 294 ft.

Courtesy, Hydro-Electric Power Commission of Ontario.

So general and widespread is its availability that all but the most isolated hamlets enjoy the amenities of electric lighting, radio, cooking and domestic appliances which in many countries are only associated with the larger urban centres.

Canada's water powers have an estimated capacity of almost 34,000,000 h.p. which, under average conditions of use, will provide for a turbine installation of about 43,700,000 h.p. of which the installation, as at Jan. 1, 1939, represents only 18.75 p.c., notwithstanding that it provides 730 h.p. for each thousand of her population. These water powers, developed and undeveloped, are found from the Maritimes to British Columbia in proximity to all industrial centres, the largest mineral deposits and pulpwood supplies. Widespread transmission networks distribute the power from developed sites to consumers within radii of hundreds of miles.

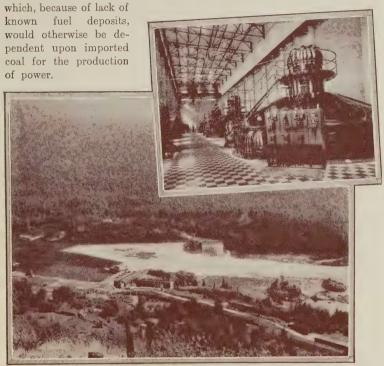
Available and Developed Water Power, by Provinces, Jan. 1, 1939

		4-hour Power Efficiency	Turbine
Province or Territory	At Ordinary Minimum Flow At Ordinary Six-Month Flow	Installa- tion	
Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario. Manitoba Saskatchewan. Alberta. British Columbia. Yukon and Northwest Territories.	20,800 68,600 8,459,000 5,330,000 3,309,000 542,000 390,000	h.p. 5,300 128,300 169,100 13,064,000 6,940,000 5,344,500 1,082,000 1,049,500 5,103,500 731,000	h.p. 2,617 130,617 133,347 4,031,063 2,582,959 420,925 61,035 71,997 738,013 18,199
Canada	20,347,400	33,617,200	8,190,772

Provincial Distribution of Water Power.- The water powers of the Maritime Provinces, while small in comparison with the sites in the other provinces, are a valuable economic resource which is augmented by abundant local coal supplies. Quebec has the largest known resources of water power and the greatest development, her present installation representing almost 50 p.c. of Canada's total. More than 89 p.c. of her total installation is operated by central electric station organizations distributing electricity for public use. Ontario, which, like Quebec, is without local coal supplies, is second in both power resources and development. Here the Hydro-Electric Power Commission operates plants aggregating more than 65 p.c. of the total installation of the province, while an additional 21 p.c. is operated by other central station organizations. Of the Prairie Provinces, Manitoba has the greatest power resources and the greatest development, 75 p.c. of the total hydraulic development of the three provinces being installed on the Winnipeg river to serve the city of Winnipeg and adjacent municipalities and, over the transmission network of the Manitoba Power Commission, 96 cities, towns, and villages in southern Manitoba. In the section of the Prairie Provinces containing least water power, the southern portions of Saskatchewan and Alberta,

there are large fuel resources. British Columbia, traversed by three distinct mountain ranges, ranks fourth in available water power and her hydraulic development is exceeded in only Quebec and Ontario. The water powers of the Yukon and Northwest Territories, while considerable, are so remote as to limit their present development to local mining uses.

The significance of this distribution of Canada's water power is evident when it is stated that 60 p.c. of the available power and 81 p.c. of the developed power are found in the highly industrialized provinces of Ontario and Quebec which contain 61½ p.c. of her total population and



The Upper Bonnington Falls Hydro-Electric Development, Kootenay River, B.C.—Along the Kootenay River, between its junction with the Columbia River and Nelson, are four such plants with a total capacity of 286,000 h.p. The one shown has a capacity of 94,000 h.p. including two new units which are being added. Electric energy is distributed throughout eastern British Columbia for power, heat, and light. Inset: Interior of one of the power houses.

Courtesy, West Kootenay Power and Light Company, Limited.

Hydro-Electric Construction During 1938.—Construction during 1938 extended from Coast to Coast and provided additional hydro-electric installation totalling 135,384 h.p.

In British Columbia, the Western Power Company of Canada, a subsidiary of the British Columbia Power Corporation, increased to 94,000 h.p. the capacity of its plant on the Stave river, near Ruskin, by

completing the installation of a second unit of 47,000 h.p. The West Kootenay Power and Light Company is adding two units of 30,000 h.p. to its plant at Upper Bonnington Falls on Kootenay river thus increasing its capacity to 94,000 h.p.

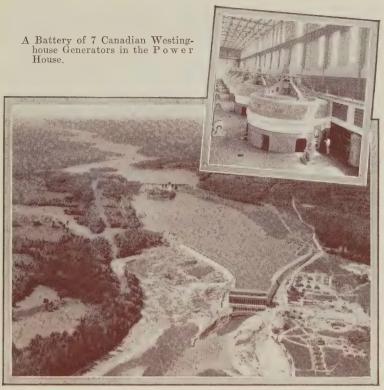
In Saskatchewan, the Churchill River Power Company proceeded with the addition of a 19,000-h.p. unit to its plant on the Churchill river at Island Falls, 60 miles northwest of Flin Flon. This new unit will increase the installation of the plant to 80,000 h.p. The power is transmitted at 110,000 volts to the Flin Flon mine, 58 miles distant on the Manitoba-Saskatchewan boundary and 45 miles further to the Sherritt-Gordon mine in Manitoba. Further hydro-electric activity in the province was the continuance of construction by the Consolidated Mining and Smelting Company to provide power for its operations near Goldfields on lake Athabaska. This project may reach an ultimate installation of 6,600 h.p. at Wellington lake by the diversion of the waters of Tazin lake.

In Manitoba, the city of Winnipeg added a fourth unit of 12,500 h.p. to its plant on the Winnipeg river at Slave Falls bringing its capacity to 50,000 h.p. The power, with that of the city's Pointe du Bois station, six miles upstream is transmitted at 132,000 volts to Winnipeg some 90 miles distant.

In Ontario the Hydro-Electric Power Commission of Ontario completed a 10,400-h.p. generating station on the Musquash river, at Ragged Rapids, five miles downstream from Bala, to augment the power supply of its Georgian Bay system. The Commission provided additional regulation of its water supplies by the replacement of a dam on the Wanapitei river and by the construction of a dam on the Frederickhouse river. Approximately 2,400 miles of additional rural distribution have been constructed by the Commission. In the Sault Ste. Marie district the Great Lakes Power Company has completed a plant of 10,000 h.p. at Lower Falls on the Montreal river. The plant is interconnected with the Company's other plants at Upper Falls on the same river, at Sault Ste. Marie, and at Michipicoten Falls.

In Quebec the Gatineau Power Company added a fifth unit of 34,000 h.p. to its Chelsea station on the Gatineau river bringing the plant to its designed capacity of 170,000 h.p. This company has two other large plants on the same stream, Paugan of 238,000 h.p. and Farmers Rapids of 96,000 h.p. The Bellterre Mining Company completed a 1,400-h.p. installation in Devlin township on the Winneway river near lake Expanse. The St. Maurice Power Company continued preliminary work on its projected 162,000-h.p. plant at La Tuque on the upper St. Maurice river. The Beauharnois Light, Heat and Power Company is adding a ninth unit of 53,000 h.p. to its plant on the St. Lawrence river, 25 miles upstream from Montreal. It is planned for operation in 1939 and will increase the installation of the plant to 477,000 h.p.

Construction in the Maritime Provinces includes the completion of a 10,200-h.p. development at Cowie Falls on the Mersey river to increase the supply of power to the Brooklyn mill of the Mersey Paper Company, and the continuance of work on the construction of a 3,750-h.p. development on Paradise brook by the Annapolis Basin Pulp and Paper Company,



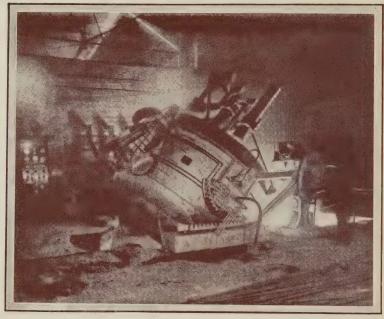
Paugan Hydro-Electric Development on the Gatineau River, Province of Quebec, 36 miles from the city of Ottawa.—This plant has a designed capacity of 272,000 h.p.

Courtesy, Dominion Water and Power Bureau, Ottawa.

Central Electric Stations

Over 88 p.c. of all water power developed in Canada is developed by central electric stations and, although there are a large number of stations (250) which derive their power entirely from fuels and 40 hydraulic stations which also have thermal auxiliary equipment, 98 p.c. of all electricity generated for sale is produced by water power.

The production of electricity by central electric stations amounted to 5,500,000,000,000 kilowatt hours in 1919, the first year for which such data are available. Six years later it was almost doubled, by 1928 it had more than trebled and by 1930 it amounted to 18,000,000,000 kilowatt hours. With continued depression in manufacturing industries the output started to decline late in 1930 and continued into 1933, but from June, 1933, to the end of 1937 there has been an almost continuous succession of increases each month after adjusting for normal seasonal variations. A slump in 1938 in the pulp and paper industry, which takes around 40 p.c. of the



An Electric Furnace in a Nova Scotia Steel Plant.

Courtesy, Dominion Steel and Coal Corporation, Sydney, N.S.

total power generated, caused a reduction in the output to about the 1936 level. The output for December, 1937, at 2,457,996,000 kilowatt hours, was the largest in the history of the industry; an estimate for the present year is 25,000,000,000 kilowatt hours, as compared with the high record of 27,583,927,000 kilowatt hours made in 1937. Only one other country (Norway) has a greater output per capita and only one other country (United States) has a greater total output irrespective of size. One reason for this large use of electricity produced by central stations is the absence of coal in the central provinces and the large quantities of water power available within transmitting distances of the principal manufacturing centres. The pulp and paper industry has been an important factor in the rapid increase. The use of electric furnaces has been growing and about 27 p.c. of the total central electric station output is now consumed by them. Low rates and reliable service have increased the domestic use for lighting, cooking, water heating and other household uses; the average per capita consumption has risen to 1,308 kilowatt hours per annum, about twice that in the United States where living standards are very similar. Secondary power used in electric boilers, mainly in pulp and paper mills. has increased from a very small quantity in 1924 to over 7,000,000,000 kilowatt hours in 1937, but the consumption of firm power, or total output less secondary power for electric boilers and exports to the United States, has continued to increase and reached a peak for the month of October, 1937, of 1,655,879,000 kilowatt hours.

The rated capacity of electric motors in manufacturing industries in Canada in 1936 was 78.6 p.c. of the total capacity of all power equipment in these industries, the increase from 61.3 p.c. in 1923 being almost continuous. In the mining industries this conversion to electric drive has been even greater, growing from 57.3 p.c. in 1923 to 76.3 p.c. in 1936. In 1936 almost 85 p.c. of these electric motors in manufacturing industries and 90 p.c. in mining industries were driven by power produced in central stations.

Mechanical power, particularly electric motors, has been increasing in manufacturing industries much more rapidly than the number of employees during the past decade. From 1923 to 1936 power equipment, measured in horse-power, increased by 107.8 p.c., whereas the number of employees increased by only 15.6 p.c. Of course, employees decreased from 1929 to 1933, while power equipment continued to increase. At the peak of employment in 1929 the increases over 1923 were 80.2 p.c. for power equipment and 31.9 p.c. for employees. These percentage increases are affected by the relative status of each class of power at the beginning of the period and also by the more or less general practice of installing a surplus of motor capacity in plants where each machine has its own motor. One horse-power is equivalent approximately to the capacity of ten men. Consequently in 1923 for each employee there was power equipment with a capacity of 42 men and by 1929 this had grown to a capacity of 57 men. The load factor, or extent to which the available power equipment and man power were used, is not known, but quite probably the ratio between use and available capacity was changed very little during these six years.

Electricity, principally hydro-electric energy, is also displacing coal and oil to heat furnaces, ovens and boilers, and is doing enormous quantities of work in electrolytic refining of metals, production of fertilizers, metal plating and so forth.

Investments in central electric stations for 1936 amounted to \$1,483,-116,649, which was larger than for any manufacturing industry; revenues amounted to \$135,865,173 and 1,443,059 domestic customers were served. These are approximately 60 p.c. of all families in Canada, both urban and rural.

Average Monthly Output, Central Electric Stations in Canada, 1926-38

Year	From Water	From Fuel	Total	Year	From Water	From Fuel	Total
1926 1927 1928 1929 1930 1931	'000 k.w.h. 991,041 1,193,481 1,340,292 1,441,203 1,463,330 1,339,907 1,296,360	'000 k.w.h. 16,746 18,944 21,192 27,622 25,230 26,071 25,845	1,212,425 1,361,484 1,468,825 1,488,560	1933. 1934. 1935. 1936. 1937. 1938 ¹ .	'000 h.w.k. 1,436,486 1,733,810 1,917,958 2,078,739 2,256,779 2,065,468	'000 h.w.k. 26, 150 29, 484 32, 410 37, 452 41, 882 34, 934	'000 k.w.h. 1,462,636 1,763,294 1,950,368 2,116,191 2,298,661 2,100,402

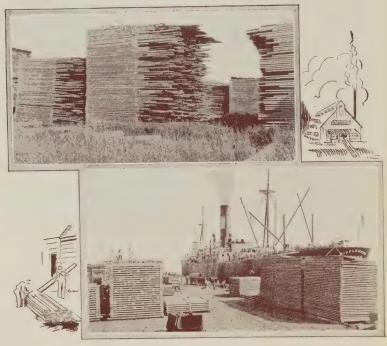
¹Seven-month average.

The above figures are interesting as showing the consistent progress of the industry from 1926 to 1930 and, after a two-year interval, its continued progress. Even in the worst of the depression years (1932) the drop in output was only a little over 11 p.c. of the maximum, and, from June, 1933, onward there has been very rapid and fairly continuous increase. The index number adjusted for seasonal variations reached an all-time high point for any month at 239·83 in June, 1937 (1926 = 100).

CHAPTER IX

CONSTRUCTION

The construction industry in its various phases is dealt with in this chapter, which presents available data respecting construction work undertaken by public authorities and by private enterprise.



The proper seasoning of lumber is essential before it goes into use in construction operations. The upper picture shows very poor piling and airseasoning practice. Note particularly the low foundations and rank vegetation, the uneven stickering resulting in 'bowing' the long overhanging ends, and the inadequate roofing. By contrast, the lower picture illustrates a series of well-designed lumber piles.

Courtesy, Forest Products Laboratories, Ottawa, and Gloucester Lumber and Trading Company, Bathurst, N.B.

In the past few years of depressed business conditions, public construction work has been of special importance, both in stabilizing and stimulating the industry. However, since 1933 there have been evidences of increased activity in private and commercial, and in municipal construction undertakings. The former, in the residential field, has received considerable stimulus in the past two or three years from the Dominion Housing Act, 1935, and the National Housing Act, 1938, and the Home Improvement Loans Guarantee Act, 1937. Municipal construction may be expected to receive a similar stimulus during the current year from the Municipal Improvements Assistance Act, 1938. All these Acts are administered by the Dominion Department of Finance.

National Housing Act, 1938.—This legislation has a twofold purpose: (1) to assist in the improvement of housing conditions; and (2) to assist in the absorption of the unemployed by the stimulation of the construction and building material industries. The Act is comprised of three separate parts.

Part I re-enacts the main features of the Dominion Housing Act; 1935, with important amendments designed to encourage the construction of low-cost houses and the extension of lending facilities to the smaller and more remote communities. The Minister of Finance is empowered to make advances to the amount of \$20,000,000, less advances already made and administrative expenses already incurred under the Dominion Housing Act, which amounted to approximately \$5,500,000. The Act provides for loans for the construction of new dwellings, including single-family houses, duplexes, and apartment houses, but not including buildings used for both dwelling and commercial purposes. All loans are made through approved lending institutions, the security taken being in the form of a first mortgage running jointly to an approved lending institution and to the Government. Loans may be for an amount not exceeding 80 p.c. of the lending value of the property, i.e., the cost of construction or the appraised value, whichever is lower, or 90 p.c. where lending value is \$2.500 or less and the house is being built for an owner-occupant. The other 20 p.c. or 10 p.c., respectively, is to be provided by the borrower. Provision is also made for loans ranging between 70 p.c. and 80 p.c. when the lending value exceeds \$2,500, and for loans ranging between 50 p.c. and 90 p.c. when the lending value does not exceed \$2,500. In order to encourage the extension of the Act to the smaller and more remote communities, and to special areas in the larger centres, the Minister is authorized to guarantee approved lending institutions against loss up to an amount not in excess of 25 p.c. of the total amount of such loans made by each such lending institution. The interest rate paid by the borrower on all loans made under Part I is 5 p.c. This is made possible by the fact that the Government advances one-quarter of the total mortgage money on an interest basis of 3 p.c., the rest of this mortgage money being provided by the lending institution. Loans are made for a period of 10 years subject to renewal for a further period of 10 years upon revaluation of the security and on conditions satisfactory to all parties concerned. Interest, principal and taxes are payable in monthly instalments. Amortization of principal is effected at a rate sufficient to pay off the entire loan in 20 years, but more rapid amortization may be arranged to suit the convenience of the borrower. The Act requires sound standards of construction and contains other clauses safeguarding the mortgage.

Part II of the Act is designed to assist local housing authorities, including limited-dividend housing corporations, to provide decent, safe, and sanitary housing to be rented only to families of low income who cannot afford the 'economic rental', which is stated as 9½ p.c. of the cost of construction plus the taxes which would ordinarily be levied on the property by the municipality. The Dominion Government is authorized to make first mortgage loans to local housing authorities up to a maximum amount of \$30,000,000, but loans to any one municipality must not exceed

the proportion of \$30,000,000 which the population of the municipality bears to the total urban population of Canada based on the 1931 Census. Loans of 80 p.c. of the cost of construction (including cost of land, building, architectural, and legal expenses and any other expenses necessary to complete the project), but not exceeding \$2,400 per family unit, may be made to limited-dividend housing corporations organized to construct, hold, and manage houses built as a low-rental housing project, and dividends on the shares of which are limited to 5 p.c. annually. Loans of 90 p.c. of the cost of construction, and not exceeding \$2,700 per family unit, may be made to other local housing authorities. Interest is at 13 p.c. in the case of limited-dividend corporations, and 2 p.c. for other local housing authorities. Payments are made half-yearly covering principal and interest so as to amortize the loan in approximately 35 years. The municipality must agree not to levy taxes in excess of 1 p.c. of the cost of construction. In the use of loans made to local housing authorities other than limited-dividend housing corporations, the interest and principal must be guaranteed by the government of the province concerned.

Part III authorizes the Minister of Finance to pay the increase in municipal taxes (excluding special taxes and local improvement taxes) levied on a house costing \$4,000 or less, the construction of which begins between June 1, 1938, and December 31, 1940, as follows: 100 p.c. of such taxes for the first tax year; 50 p.c. for the second; and 25 p.c. for the third. The chief conditions to be complied with are: (1) The municipality in which the house is erected, if it owns lots suitable for residential purposes, must make a satisfactory offer to sell a reasonable number of such lots at not more than \$50 per lot, or at not more than the lowest price at which the municipality has power to sell such lots, to persons who agree to begin the construction of houses for their own occupation within one year from the respective dates of purchase. Any new house complying with the other general conditions is eligible for tax assistance, and not only such houses as may be built on lots sold by the municipality. (2) The cost of construction of the house including land, building, architectural and legal expenses, must not exceed \$4,000. (3) The house must be built for a person for his own occupation.

The results of operation under the Dominion Housing Act and the National Housing Act are:—

Loans Made Under the Dominion Housing Act and the National Housing Act to Sept. 30, 1938

Province	Loans	Family Units Provided	Amount	Province	Loans	Family Units Provided	Amount
P.E.I. N.S. N.B. Que. Ont.	No. 11 387 102 699 1,658	No. 11 395 109 1,308 2,844			No. 113 5 Nil 885	No. 173 5 Nil 1,066	\$ 745,583 18,100 Nil 3,371,795
				Totals	3,860	5,911	23,426,259

The Home Improvement Loans Guarantee Act, 1937.—This Act provides for a limited guarantee to chartered banks and certain other

approved lending institutions in respect of loans made to owners of residential property to finance repairs, alterations, and additions to urban and rural dwellings (including farm buildings). The lending institutions are guaranteed against loss to the extent of 15 p.c. of the aggregate amount of such loans made by each such lending institution. The aggregate amount of such loans to be guaranteed is \$50,000,000 and the maximum liability of the Government is therefore \$7,500,000. No loan shall exceed \$2,000 on any single property except in the case of a multiple-family dwelling when the loan shall not exceed \$1,000 plus \$1,000 for each family unit provided. Loans of \$1,000 or less shall be for a term not exceeding 3 years and loans in excess of \$1,000 for a term not exceeding 5 years; in both cases they are repayable in convenient periodic instalments. The maximum charge for loans shall be 3½ p.c. discount for a one-year loan repayable in equal monthly instalments, and proportionate rates for other periods.

The results achieved under the Home Improvement Plan are:-

Loans Made Under the Government Home Improvement Plan to Aug. 31, 1938

Province	Loans	Amount	Province	Loans	Amount
Prince Edward Island Nova Scotia. New Brunswick. Quebec. Ontario.	No. 548 4,197 2,072 7,976 23,024	1,270,220 701,818	Manitoba Saskatchewan. Alberta British Columbia Totals.	No. 3, 181 1, 141 3, 852 5, 579 51,570	\$ 1,221,652 387,738 1,670,207 1,768,120 20,615,739

The Municipal Improvements Assistance Act, 1938.—The sum of \$30,000,000 is available under this legislation for the purpose of creating employment on productive undertakings by providing funds to municipalities at a low interest rate to assist in constructing or making extensions or improvements to, or renewals of, self-liquidating projects for which there is urgent need and which will assist in the relief of unemployment. A self-liquidating project is one which will increase net revenue either by reductions in annual operating and maintenance charges required to be borne by the municipality or by increase of revenues from persons specially benefiting from the project, by an amount sufficient to pay the annual charges for interest and amortization. A municipality may apply for loans up to an amount equal to \$2.89 per head of its population. There is a further provision under which a loan not exceeding \$200,000 may be made available to any municipality however small. All loans bear interest at the rate of 2 p.c. per annum, payable semi-annually, and are to be amortized by semi-annual payments sufficient to pay off the entire loan during a period not exceeding the useful life of the project. As security for such loan the municipality must deliver its debentures or other securities, equal in principal amount to the loan, and may also be required to give a first mortgage, hypothec or other charge on the project.

Each project and application for loan must be approved by the government of the province in which the municipality is situated, and the loan itself both in respect of interest and principal must be guaranteed by the government of the province concerned.

Railways.—The expenditures of railways on maintenance of way, and structures and equipment are not included in the census figures of the construction industries given below and are therefore summarized here. For steam railways expenditures for these purposes in 1937 amounted to \$131,475,672 as against \$124,133,303 in 1936 and \$194,000,000 in 1929. For electric railways the total for 1937 was \$5,144,997 as against \$5,834,426 in 1936 and \$9,000,000 in 1929. Expenditures on new line of steam railways were \$3,052,644 in 1937 compared with \$120,000 in 1936, whereas in the years 1928-31 they averaged \$30,000,000 per year.

Annual Census of the Construction Industries.—A census of construction was first made by the Dominion Bureau of Statistics for 1934 but the basis of compilation was not standardized until 1935 so that, with the compilation of the 1936 figures, data are now available on a comparable basis for the two years shown in the table below. It should be pointed out that no relationship exists between these figures and those of values of contracts awarded as shown on p. 77. In the latter case all values are included since awards are made irrespective of whether the contract is completed or even begun in that year, whereas the statistics below show only the work performed in the years specified.

Of the 1936 total value of work performed, 66 p.c. was represented by entirely new construction as compared with 65 p.c. for the previous year. The remainder was for alterations, repairs, maintenance, etc. With regard to type of construction, engineering contracts (such as for streets, highways, harbour and river work, etc.) accounted for 46.4 p.c. as compared with 55.1 p.c. in 1935. Buildings accounted for 38.8 p.c. compared with 33.1 p.c. in 1935; of this type of construction, government and municipal buildings alone showed a decrease.

Statistics of the Construction Industry, 1936, With Totals for 1935

Province or Group	Capital Invested	Persons Employed	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed
Totals, 1935	\$ 158,471,961	No. 144,768	\$ 105,186,623	\$ 94,733,584	\$ 215,548,873
Province, 1936 Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British. Columbia and Yukon Totals, 1936	6,415,926 6,675,829 48,600,732	10,814 8,276 39,085 54,661 6,366 6,317 5,008 11,323	7,721,629 5,893,831 28,996,755 46,692,679	6, 143, 404 4, 749, 916 33, 067, 551 52, 872, 338 6, 144, 995 3, 221, 387 4, 197, 683 11, 466, 280	15, 434, 295 11, 982, 253 67, 902, 087 108, 260, 433 12, 929, 022 8, 314, 668 9, 611, 860 22, 789, 641
Group, 1936	101,000,000			144,189,408	%08,U4U,4UU
Contractors, builders, etc	132,449,927 14,720,019 3,029,349 7,979,427 6,143,554	22, 278 1, 131 32, 253	75,341,968 12,801,383 1,194,788 17,531,905 5,976,340	9,086,305	18,637,886 1,983,044 31,914,208

¹ At the time of going to press, the principal statistics of the industry for 1937 were announced as: capital invested, \$176,971,223; persons employed, 151,652; salaries and wages paid, \$150,637,291; cost of materials used, \$175,844,435; value of work performed, \$351,874,114.

Volume of Construction, 1938.—The recovery in construction, on the whole, has not paralleled that indicated in many other industries, although substantial improvement has been reported recently. According to the records of the construction contracts awarded, as maintained by MacLean Building Reports, Limited, the value of such contracts rose from \$162,588,000 in 1936 to \$224,056,700 in 1937, being higher than in any other year since 1931; the total for the first ten months of 1938 was \$179,683,700, \$18,893,100 lower than in the same months of 1937. The following table shows the value of the various classes of structures for which contracts were awarded in the first ten months of 1937 and 1938.

Construction Contracts Awarded in Canada, Jan. 1 to Oct. 31, 1937 and 1938

(MacLean	Building	Reports,	Ltd.)
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m	1937		1938	
Type of Construction	No.	Value	No.	Value
		\$		\$
Apartments. Residences. Totals, Residential. Churches. Public garages Hospitals. Hotels and clubs. Office buildings. Public buildings. Schools.	283 15,630 15,913 277 716 100 347 413 513 423	49,175,600 2,462,900 3,843,500 6,950,800 2,357,900 5,176,100 6,028,300 5,740,600	223 17,358 17,581 361 822 118 379 462 562 534	7,513,400 44,192,200 51,705,600 4,524,700 3,194,700 6,890,800 2,690,400 4,655,900 15,336,900 10,531,300
Stores. Theatres Warehouses. Totals, Business. Totals, Industrial. Bridges. Dams and wharves Sewers and watermains.	1,733 117 566 5,205 877 173 103 121 529	6,439,300 1,939,800 7,348,600 48,287,800 32,021,100 7,014,700 3,192,500 2,301,100 34,257,600	760 186 143 179	10,643,100 1,530,500 4,162,600 64,160,900 15,139,300 4,363,900 4,070,400 3,052,900 15,907,600
Roads and streets. General engineering. Totals, Engineering. Grand Totals.	492 1,418 23,413	22,326,400 69,092,300	565 1,649	21,283,100 48,677,900

The Dominion Bureau of Statistics collects monthly statistics showing the anticipated cost of the building represented by the permits taken out in 58 cities, the record going back to 1920. The value of the construction work authorized in these cities was estimated at \$55,844,999 in 1937, as compared with \$41,325,693 in 1936; the 1937 total exceeded that for any other year since 1931, but throughout this period, the construction industries have generally operated at a low level. During the first ten months of 1938, the value of the buildings for which permits were granted was \$52,696,759. This was some 11 p.c. higher than the figure for the months January-October, 1937, and also exceeded the total for the first ten months in any other year since 1931. It is interesting to note that the value of the authorizations issued during the first seven months of 1938 was lower than in the same period of 1937, the improvement in the ten months having taken place towards the latter part of the period.

In the table following are given the data for the 58 cities in the period January to October, 1937 and 1938; these monthly figures are unrevised.

The population of these 58 centres constituted about 36 p.c. of the total population of the Dominion as enumerated in the Census of 1931; during the year 1937, their building authorizations amounted to not quite 25 p.c. of the total value of the construction contracts awarded throughout Canada. This ratio was decidedly lower than the average proportion in the years 1920-37 which was 39·7 p.c. In the first ten months of 1938, the proportion was higher than that of 1937, standing at 29·3 p.c.

Building Permits, by Cities, Ten Months, 1937 and 1938

City	1937	1938	City	1937	1938
	\$	\$		\$	8
Charlottetown, P.E.I.	135,070	89,210	St. Thomas, Ont	50,406	136,306
Halifax, N.S	1,264,856	1,026,187	Sarnia, Ont	123,375	167,078
New Glasgow, N.S	82,770	65,370	Sault Ste. Marie, Ont.	288,954	275,430
Sydney, N.S	281,352	468.834	Toronto, Ont	8,302,367	6,447,102
Fredericton, N.B	76,750	91,200	York and East York		
Moncton, N.B	148,539	254,282	Townships, Ont	1,831,693	1,290,800
Saint John, N.B	228,950	217,313		186,219	131,274
Montreal-Maisonneuve,			Windsor, Ont	3,422,917	931,626
Que	6,534,015	8, 178, 782	Riverside, Ont	94,905	78,500
Quebec, Que	804,765	1,649,856	Woodstock, Ont	185,071	109,531
Shawinigan Falls, Que.	370,030	245.155		54,745	49,535
Sherbrooke, Que	724,140	599,950		332,272	923,765
Three Rivers, Que	285,382	707,840		1,977,750	1,728,300
Westmount, Que	500,583	453,244		104,222	46,907
Belleville, Ont	140,395	108,440		429,090	421,905
Brantford, Ont	246,427	233,115		243,601	445,840
Chatham, Ont	181,750	385,276		637,539	865,896
Fort William, Ont	454,680	517,840	Edmonton, Alta	769,975	2,749,770
Galt, Ont	260,787	234,392	Lethbridge, Alta	219,663	193.937
Guelph, Ont	126,757	115,556	Medicine Hat, Alta	25,710	6,510
Hamilton, Ont	1,516,895	1,894,092	Kamloops, B.C	45,602	
Kingston, Ont	319,101	355,521	Nanaimo, B.C	205,657	101,235
Kitchener, Ont	828, 663	544, 165	New Westminster,		
London, Ont	812,020	584.645	B.C	467,790	654,607
Niagara Falls, Ont	240,686	307,634	Prince Rupert, B.C	26,924	270,734
Oshawa, Ont	193,075	71,250	Vancouver, B.C	6,037,250	7,755,440
Ottawa, Ont	1,969,488	5,006,909	North Vancouver,	WW 000	
Owen Sound, Ont	55,007	173,876	B.C	57,998	96,955
Peterborough, Ont	220, 118	375,629	Victoria, B.C	474,755	667,395
Port Arthur, Ont	684,373	733, 203	Mile and a contract	42 407 000	F2 000 250
Stratford, Ont	138,437 $713,087$	74,437 $325,316$	Totals—58 Cities	47,135,398	52,696,759

Employment in the construction industries, according to statistics from some 1,250 contractors with 125,058 employees, showed rather less fluctuation in 1938 than in the 1937 period, and the index number was slightly higher, averaging 104·7 p.c. of the 1926 average, as compared with 99·1 in the period Jan. 1 to Nov. 1, 1937. Construction in the cities is to a considerable extent limited to work classified in the building division, in which the index of employment averaged 59·2 in the same period of 1938, as compared with 58·7 in the period Jan. 1 to Nov. 1, 1937.

The wholesale prices of building materials during 1938 were generally rather lower than in 1937, but they were higher than in the first ten months in any other year since 1930. Based on the 1926 average as 100, the index of wholesale prices for these commodities averaged 90·1 in the period January to October, 1938, as compared with 94·9 in the first ten months of 1937. The preliminary index of wage rates, as prepared in the Department of Labour, stood at 169·4 p.c. of the 1913 average, as compared with 165·3 in 1937.

CHAPTER X

EXTERNAL TRADE OF CANADA—NON-COMMODITY EXCHANGES

The Commercial Intelligence Service

The Commercial Intelligence Service, maintained by the Department of Trade and Commerce, is designed to further the interests of Canadian trade in other parts of the Empire and in foreign countries. To this end there are established throughout the world offices administered by Trade Commissioners. These Trade Commissioners make periodical reports upon trade and financial conditions, variations in markets, and the current demand or opportunities for Canadian products. They also secure and forward to the Department in Ottawa inquiries for Canadian goods and, in general, promote the development of overseas markets.



Advertising Canadian Products in the Greater London Area.

Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

Organization at Ottawa.—Besides the overseas organization of the Commercial Intelligence Service, there is a headquarters staff at Ottawa. This is presided over by a Director, who is the head of the Service and administers and unifies the work assigned to the various Trade Commissioners. Assisting the Director are the following divisions: Directories—where inquiries for Canadian products, forwarded by the Trade Commissioners, are prepared for publication and distribution, and the Exporters Directory, listing Canadian exporters with their agents abroad,

commodities handled, ratings, cables and codes used, etc., and the Foreign Importers Directory are kept up to date; Editorial—where the Commercial Intelligence Journal is compiled; Commodity Records—where information regarding markets for Canadian export commodities is indexed; Economics; Animal and Fish Products; Vegetable Products; Metals and Chemical Products; Forest Products; and Miscellaneous Manufactures. These last five divisions handle correspondence falling within their respective classifications.

Also, in order to keep abreast of Canadian industrial development, each Trade Commissioner makes a periodic tour of Canada and while in this country gives first-hand information to the Canadian manufacturer regarding opportunities and conditions of trade in his territory.

Organization Abroad.—There are thirty-five Canadian Trade Commissioners or commercial diplomatic officers conveniently located abroad. In some countries or territories, such as the United Kingdom, Australia, British West Indies, South Africa, and Japan, there are more than one commercial officer; in other cases an officer covers adjacent countries. Besides the five mentioned above, countries in which officers are located are as follows: Argentina, Belgium, Brazil, British Malaya, China, Cuba, Egypt, France, Germany, Hong Kong, India and Ceylon, Irish Free State and Northern Ireland, Italy, Mexico, Netherlands, New Zealand, Norway, Panama, Peru, and United States.

Under an arrangement made by the Minister of Trade and Commerce with the British Foreign Office, Canadian manufacturers, exporters, and others interested in trade matters may secure information and advice from British commercial diplomatic officers and British consuls in all countries in which Canada is not represented by her own Commercial Intelligence Service.

Commercial Intelligence Journal.—The Commercial Intelligence Journal, containing the reports of the Trade Commissioners and other pertinent material relating to export trade, is published weekly by the Department of Trade and Commerce in both English and French editions. The subscription price for either edition is \$1 per annum in Canada and \$3.50 outside of the Dominion. Special reports dealing with various phases of Canada's export trade are also issued from time to time, as supplements to the Commercial Intelligence Journal.

External Trade*

The trade of Canada is, of course, partly the result of the necessity to procure abroad those commodities which are lacking in Canada or which domestic industry does not supply in sufficient quantity; but perhaps in even greater measure it derives from the Dominion's great wealth of natural resources and productive capacity, which can be most advantageously disposed of through wide participation in external markets.

In the production of many important commodities Canada ranks high among the countries of the world. The Dominion is first in the produc-

^{*} In statistics of imports in this chapter, excise duty which had been included in the value of distilled spirits, chiefly whisky, imported into Canada from countries entitled to the British Preferential Tariff since the fiscal year 1920-21, is excluded as from Apr. 1, 1935. Such imports from the United Kingdom, which constitute the major part of this item, were valued at \$5,106,292 in 1937-38.

tion of asbestos, nickel, and newsprint, supplying normally over half the world's asbestos, over 80 p.c. of the world's nickel, and more newsprint than the rest of the world combined. In 1937 Canada was third in the production of gold, copper, lead, and zinc, and fourth in the production of automobiles. In wheat production Canada stood in sixth position.

In export trade the Dominion led the world during 1937 in exports of newsprint paper, nickel, and asbestos, was second in exports of wheat, and third in exports of wheat flour and rubber tires. Canada ranked fourth with respect to exports of automobiles and wood-pulp and also ranked high among exporters of many other products, such as lumber and timber, fish, copper, barley, cheese, raw furs, whisky, meats, farm implements, cattle, gold, silver, rye, oats, rubber footwear, leather and hides.



Unloading Canadian Motor Car Tires at Auckland, New Zealand.
Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

Canada's external trade in the fiscal year ended Mar. 31, 1938, again recorded an increase over the preceding fiscal period. Declines in imports in the last three months and in exports in the last half of 1937-38, as compared with 1936-37, were offset by gains earlier in the year. For the full twelve months ended Mar. 31, 1938, imports reached a value of \$799,070,000 and exports \$1,084,821,000, being increases over 1936-37 of 19 p.c. and 1 p.c., respectively. Compared with the depression low, reached in 1932-33, imports in 1937-38 gained 97 p.c. and exports 103 p.c.

Imports gained in quantity as well as volume. The quantity of exports in 1937-38 declined by 8.6 p.c. as compared with the previous year, this decline being more than counterbalanced by a rise in prices.

Summary of Total Imports and Exports of Canada

	Total			Excess: Imports —		
Fiscal Year	Imports	Canadian Produce	Foreign Produce	Total	Exports +	
	\$	\$	\$	\$	\$	
1913-14 1919-20 1924-25 1929-30 1932-33 1933-34 1934-35 1935-36 1936-37 1937-38	$\begin{array}{c} 619,193,998 \\ 1,064,528,123 \\ 796,932,537 \\ 1,248,273,582 \\ 406,383,744 \\ 433,798,625 \\ 522,431,153 \\ 562,719,063 \\ 671,875,566 \\ 799,069,918 \end{array}$	1,239,492,098 1,069,067,353 1,120,258,302 528,064,278 665,954,071		1,286,658,709 1,081,361,643 1,144,938,070 534,978,120 672,265,395 764,284,888	$\begin{array}{l} -163,756,774 \\ +222,130,586 \\ +284,429,106 \\ -103,335,512 \\ +128,594,376 \\ +238,466,770 \\ +241,853,735 \\ +299,753,013 \\ +402,368,654 \\ +285,751,286 \end{array}$	

¹See footnote to p. 80.

It will be noted from the statistics in the above table that in spite of the sharp decline in exports during the last six months of 1937-38 as compared with 1936-37, the balance of trade, although reduced from the extraordinarily high figure recorded last year, remains favourable to the extent of \$285,751,000.

Coincident with the expansion of import trade, the amount of duty collected increased from \$92,282,000 in 1936-37 to \$103,574,000 in 1937-38. Notwithstanding this increase in duty collected, the average ad valorem rate (i.e., the amount of duty expressed as a percentage of the value of imports) declined from 13·7 p.c. on all imports in 1936-37 to 13·0 p.c. in 1937-38. On dutiable imports alone, the rate was 24·9 p.c. in 1936-37 and 23·9 p.c. in 1937-38. The proportion of imports which were free of duty was substantially the same in both years.

Trade of Canada Compared with World Trade.—The moderately upward progress of world trade which was noted in 1936 continued in 1937, although a definite slowing up was apparent in the last half of the year. According to calculations of the League of Nations, the gold value of world trade (1929 = 100) reached 46·2 in 1937 compared with 37·4 in 1936. On a volume basis, the index for the full year 1937 stood at 97·5 compared with 85·9 in 1936. The falling off in the latter part of 1937 is indicated by the fact that the volume index for the second quarter attained the 1929 level, or 100. Preliminary statistics indicate that the bulk of the growth of world trade is accounted for by raw materials largely of mineral origin. The general picture of world trade is one in which the dominant characteristics remain hazy and indistinct. European trade policies, in particular, continue to be subordinated to political and non-commercial factors. Although several advances were made in the actual removal or reduction of restrictions in general, trade barriers remain high.

The factor of monetary instability has greatly diminished in importance although uncertainty regarding the price of gold and the difficulty in stabilizing the French franc were disturbing elements. Ocean freight rates, which exercise considerable influence on world trade, rose appreciably.

Trade of Leading Commercial Countries of the World, 1937

 $\label{eq:Note-of-state} Note. — Figures are expressed in Canadian currency and are for calendar years, those in parentheses representing relative positions in 1936.$

~ .	7	Total 7	Trade	Net Imports			Domestic Exports			
Country	Rank		Amount	Rank		Amount	R	ank	Amount	
			\$'000,000			\$'000,000			\$'000,000	
United Kingdom	1	(1)	7,314	1	(1)	4,735	2	(2)	2,57	
Jnited States	2	(2)	6,256	2	(2)	2,962	1	(1)	3,29	
Germany	3	(3)	4,574	3	(4)	2,198	3 5	(3)	2,37 96	
rance	4 5	(4) (6)	2,677 1,977	4 5	(3)	1,710 1,076	5	(5) (6)	90	
apan	6	(5)	1,904	8	(8)	794	4	(4)	1.11	
Belgium	7	(7)	1,777	6	(6)	920	7	(8)	85	
Vetherlands	8	(8)	1.486	7	(7)	854	10	(12)	69	
British India	9	(9)	1,338	10	(9)	584	9	(7)	78	
rgentina	10	$(\hat{1}\hat{2})$	1,275	12	(15)	513	8	(10)	76	
talv	11	(14)	1,123	9	(11)	710	14	(15)	4	
Inion of South Africa	12	(10)	1,102	13	(13)	497	11	(9)	60	
ustralia	13	(11)	1,080	14	(10)	496	12	(11)	5	
weden	14	(13)	1,046	11 15	(12)	538 415	13 16	(13) (16)	50	
witzerland	15	(15)	710		(14)		15		34	
Brazil	16	(16)	679	16	(16)	331	15	(14)	· ·	

Leading Imports and Exports of Canada.—Detailed tables of the twenty-five leading commodities imported and exported follow.

Imports of Twenty-five Leading Commodities, fiscal year 1937-38 Compared with 1936-37

Ra	nk	Commodity (In order of value,	Totals Impo	rts, 1937-38	Increase or Decrease 1937-38 compared with 1936-37		
1936- 37	1937- 38	1937–38)	Quantity	Quantity Value		Value	
				\$		8	
3 1 2 5	1 2 3 4	Machinery	1,352,819,133 14,629,899	48,367,372 47,634,720 38,907,709	+105,927,077	$^{+17,280,553}_{+7,072,087}_{+4,052,983}$	
4 12	5 6	Plates and sheets, ironcwt. Automobile parts Farm implements	8,316,611	29,725,252 19,245,768	_	+8.841,424 $+2.345.547$ $+8.442,018$	
6 7 8 9	7 8 9	Raw cotton lb. Sugar for refining cwt Fresh fruits	151,361,351 9,118,570 - 25,425,687	16,546,947	-1,091,553	$-2,461,157 \\ +86,798 \\ +665,082 \\ +3,141,622$	
14 11 10	11 11 12 13	Vegetable oils gal. Automobiles No. Electrical apparatus Books and printed	19,293		+5,986	+3,141,022 $+5,234,359$ $+3,559,087$	
15 17	14 15	Rubber, crudelb. Engines and boilers	78,791,841	14,959,310 14,729,016 10,872,390	+16,245,782	+2,628,958 $+4,418,348$ $+2,209,128$	
13 16 20 27	16 17 18 19	Cornbu Tealb Clay and products Stone and products	15,505,439 37,980,035	10,336,265 9,846,850 9,174,600 8,629,813	-2,640,839	$-214,815 \\ +498,841 \\ +1,430,444 \\ +2,947,262$	
23 21 19	20 21 22	PaperGlass and glasswareSpirits and wines		7,984,806 7,792,695 7,429,632	-	+924,307 $+209,652$ $-664,901$	
24 22	23 24	Raw woollb. Noils, tops and waste	21,358,266 11,151,213	7,379,315	-2,412,970	+902,610	
18	25	Furs		6,821,777		-1,386,963	



Drums of Canadian Refractory Cement being Unloaded at Calcutta. British India.

Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

Domestic Exports of Twenty-five Leading Commodities, fiscal year 1937-38 Compared with 1936-37

Ra	ınk	Commodities Exported (In order of value,	Totals Dome 1937		Increase or Decrease 1937–38 Compared with 1936-37		
1936- 37	1937- 38	1937-38)	Quantity	Value	Quantity	Value	
				\$. \$	
2 1 3	1 2 3	Newsprint paper cwt. Wheat bu. Gold bullion, non-	63,815,792 89,628,923	120,007,550 116,273,709	+916,083 $-138,367,590$		
4 7	4 5	monetary oz. Nickel cwt. Copper bars, rods, cwt.	2,472,116 $2,270,879$ $3,560,568$	86,203,736 61,918,600 45,674,426	+480,518	+9,536,467 $+16,036,416$ $+10,801,281$	
5 6 8	6 7 8	Planks and boards M ft. Meats Wood-pulp	1,805,726 15,739,081	43,662,909 41,362,775 39,960,178	-61,085	+3,378,045 $+5,248,278$ $+6,749,941$	
9 12 11	9 10 11	Fish	3,052,524 68,850	26, 283, 313 25, 299, 363	$-364,757 \\ +15,271$	+1,195,711 $+5,873,633$	
17 10	12 13	Wheat flour bbl. Aluminium in bars. cwt. Whisky pf. gal.	3,904,888 1,096,131 4,729,792	23, 221, 366 20, 748, 973 18, 828, 293	+415,774 $-556,231$	+1,634,328 $+8,226,926$ $-2,948,953$	
20 16 13	14 15 16	Zinc	3,748,177 3,547,998 -	16,059,164 14,115,946 13,998,255	-195,069	+6,195,227 $+336,745$ $-4,445,795$	
15 19 18	17 18 19	Cattle No. Asbestos, raw ton Cheese cwt.	287, 459 360, 978 879, 475	13,914,541 13,721,394 12,958,568	+39,991	-85,551 $+3,152,092$ $+1,702,025$	
21 24 29	20 21 22	Pulpwood	1,590,363	12,468,821 11,305,195	+407,002	+3,789,623 $+3,697,723$	
41 25	23 24	machinery	$\begin{array}{c} - \\ 1,089,854 \\ 22,214,077 \end{array}$	10,705,957 10,317,959 9,913,475	+568,125	+4,429,349 $+6,354,307$ $+2,669,725$	
14	25	Barley bu.	13,383,599	9, 550, 891		+2,009,723 -5,350,320	

Distribution of Canada's Trade by Countries.—The following statement on imports from twenty-five leading countries shows how pre-

dominant the two great English - speaking countries are as a source of supply of Canadian imports. The United States supplied approximately 61 p.c. of the Dominion's imports in 1937-38, and the United Kingdom, over 18 p.c. The countries shown account for about 97 p.c. of total imports in each year.

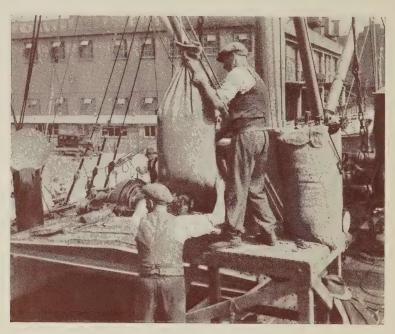


Canadian Pavilion at New York World's Fair, 1939.

Courtesy, Publicity Division, Department of Trade and Commerce.

Imports from Twenty-five Leading Countries, fiscal year 1937-38 Compared with 1936-37 and 1935-36

Rank			Country (In order of importance, 1937-38)	To	otals Imp	orts	Increase or Decrease 1937–38 Compared with—		
1935 -36	1936 -37	1937 -38	(In order of importance, 1991 99)	1935-36	1936- 37	1937-38	1935-36	1936-37	
1 2 16 5 3 4 9 8 17 7 21 18 11	1 2 5 6 4 7 29 8 10 9 18 14 12 13	1 2 3 4 5 6 7 8 9 10 11 12 13 14	United States United Kingdom British Straits Settlements Australia Germany British India British South Africa Belgium New Zealand France Ceylon Japan Jamaica British Guiana	6,718 2,918 3,466 4,313	9,470 11,684 8,326 1,459 6,696 5,377 6,454 3,962 4,797 5,173	\$'000 487,307 145,000 15,586 12,171 11,397 9,405 8,394 7,462 7,397 6,489 6,149 5,782 5,668 5,557	+23·0 +116·5 +67·3 +15·0 +26·1 +76·0 +46·5 +104·2 -3·4 +110·7 +66·8 +31·4 +16·8	+47·9 +28·5 -2·5 +13·0 +475·3 +11·4 +37·6 +0·5 +55·2 +20·5 +9·6 +10·0	
15 13 14 23 12 26 16 20 19 25 31	3 15 11 22 17 28 16 20 19 24 33	15 16 17 18 19 20 21 22 23 24 25	Argentina. Colombia. Peru. Switzerland Netherlands Italy. China. British East Africa. Barbados. Czechoslovakia. Venezuela.	3,744 4,202 4,171 2,573 4,258 1,944 3,717 3,225 3,430	11,724 4,529 5,272 2,701 4,252 1,722 4,275 2,829 3,711 2,365		$ \begin{array}{c} +9 \cdot 9 \\ +8 \cdot 9 \\ +47 \cdot 8 \\ -16 \cdot 7 \\ +72 \cdot 6 \\ -10 \cdot 1 \\ +2 \cdot 0 \\ -8 \cdot 4 \\ +56 \cdot 8 \end{array} $	$\begin{array}{c} +1.9 \\ -13.9 \\ +40.8 \\ -16.6 \\ +94.9 \\ -21.8 \\ +16.2 \\ -15.4 \\ +30.6 \end{array}$	



Weighing Canadian Oats on Discharge from Steamer at Bristol, England.

Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

The table on p. 87 shows Canada's domestic exports to twenty-five leading countries. The countries shown account for about 97 p.c. of total domestic exports in each year. The United States and United Kingdom rank first and second, respectively, as export markets, the United States having been first in the latest four fiscal years, but the United Kingdom was first in 1933-34. Statistics of Canadian exports, by countries, should be read with the qualification that all goods shown as exported to some countries may not finally be consumed in those countries, while, on the other hand, other countries may ultimately buy and use more Canadian goods than the Canadian export statistics indicate. For example, exports to the United Kingdom are known to include large amounts of wheat and other grains shipped 'on order'. The final destination is not known at the time of exportation from Canada. Similarly, considerable quantities of Canadian exports are consigned to one or other of the great European free ports and thence transhipped to the country of consumption. Since the country of final destination in these cases is not known at the time when the goods leave Canada, even to the owners, exports to such countries as the United Kingdom, Belgium, Netherlands, etc., which carry on large entrepôt trade, are higher than would be the case if the exports in question were credited to the countries of final consumption. Exports to other countries such as Norway, Switzerland, Czechoslovakia, etc., which obtain

Canadian goods indirectly, would be correspondingly higher than the Canadian export statistics indicate. The figures of the table show an expansion of Canada's exports to all the leading countries during the two latest years.

Domestic Exports to Twenty-five Leading Countries, fiscal year 1937-38 Compared with 1936-37 and 1935-36

Rank			Country (In order of importance, 1937-38)	Totals	Domest	ic Ex-	Increase or Decrease 1937-38 Compared with—		
1935 -36	1936 -37	1937 -38	(In order of importance, 1991 909)	1935-36	1936-37	1937-38	1935-36	1936-37	
1 2 3 4 5 7 6 8 12 10 9 14 11 18 15 16 17 20	1 2 3 5 6 8 4 9 10 11 7 17 12 16 15 18 20 22	1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18	United States United Kingdom Australia Japan British South Africa New Zealand Belgium Netherlands Germany Newfoundland France Argentina Norway Ireland (Eire) Brazil Jamaica British India Trinidad and Tobago	3,982 4,577 3,039 3,711 3,342 3,134 2,314	407, 997 26, 954 21, 630 15, 574 11, 187 23, 436 10, 916 7, 829 7, 728 11, 718 3, 727 6, 907 3, 800 3, 873 3, 327 3, 321 3, 054	26, 640 16, 169 16, 031 14, 564 13, 269 12, 254 9, 389 7, 609 7, 420 6, 672 5, 153 4, 338 4, 348 4, 348 3, 806	$\begin{array}{c} +27 \cdot 3 \\ +35 \cdot 2 \\ +79 \cdot 5 \\ +19 \cdot 0 \\ +56 \cdot 8 \\ +31 \cdot 7 \\ +40 \cdot 5 \\ +168 \cdot 7 \\ +36 \cdot 0 \\ -0 \cdot 5 \\ +86 \cdot 3 \\ +45 \cdot 8 \\ +69 \cdot 6 \\ +30 \cdot 2 \\ +31 \cdot 3 \\ +38 \cdot 7 \\ +64 \cdot 5 \\ \end{array}$	$\begin{array}{c} -37 \cdot 9 \\ +21 \cdot 6 \\ +56 \cdot 5 \\ +21 \cdot 5 \\ -35 \cdot 1 \\ +99 \cdot 1 \\ -3 \cdot 4 \\ +35 \cdot 6 \\ +24 \cdot 7 \\ +31 \cdot 9 \\ +35 \cdot 0 \\ +24 \cdot 6 \end{array}$	
22 13 21 27 19 25 23	23 13 19 25 14 32 26	19 20 21 22 23 24 25	Mexico China Sweden British Straits Settlements Italy Hong Kong Portuguese Africa	4,556 2,295 1,315 2,377	4,899 3,237 1,939 4,656 1,373	3,156 2,942	$\begin{array}{r} -26.4 \\ +37.5 \\ +123.7 \\ -4.4 \\ +37.9 \end{array}$	$ \begin{array}{r} -31.5 \\ -2.5 \\ +51.7 \\ -51.2 \\ +47.4 \end{array} $	

Summary of Trade with British Empire and Foreign Countries

,			Canada's T	rade with—		
Fiscal Year	United Kingdom	United States	Other British Empire	Other Foreign Countries	Total British Empire	Total Foreign Countries
Imports— 1926-27. 1927-28. 1928-29. 1928-30. 1932-33. 1933-34. 1934-35. 1935-36. 1936-37. 1937-38.	\$ 163,939,065 186,435,824 194,041,381 189,179,738 86,466,055 105,100,764 111,682,490 117,874,822 129,507,885 144,999,689	\$ 687,022,521 718,896,270 868,012,229 847,442,037 232,548,055 238,187,681 303,639,972 319,479,594 393,720,662 487,307,784		62,604,710 65,518,159 79,989,062	\$ 214,068,538 249,560,557 257,388,210 252,674,602 120,384,324 140,403,886 156,186,471 177,721,310 198,165,842 233,194,234	859,395,900 1,008,290,881 995,598,980 285,999,420 293,394,730 366,244,682 384,997,753 473,709,724
Exports (Canadian)— 1926-27 1927-28 1928-29 1929-30 1932-33 1933-34 1934-35 1935-36 1936-37 1937-38	446,872,851 410,691,392 429,730,485 281,745,965 184,361,019 288,582,666 290,885,237 321,556,798 407,996,698 409,411,682	304,721,354	88, 284, 515 106, 258, 803 97, 825, 173 37, 757, 908 50, 423, 723 67, 314, 241 77, 754, 681	251,228,053 328,108,239 225,637,401 108,520,628 106,874,872 93,705,093	540, 437, 761 498, 975, 907 535, 989, 288 379, 571, 138 222, 118, 927 339, 006, 389 358, 199, 478 399, 311, 479 495, 598, 105 517, 439, 020	740, 687, 164 305, 945, 351 326, 947, 682 398, 426, 447 449, 718, 938 565, 583, 801

Review of Canada's Trade by Months.—The monthly trade figures as available when going to press for the calendar year 1938 compared with 1935, 1936 and 1937, were as follows:—

Imports and Exports by Months, January, 1935, to October, 1938

Month		Imp	orts		Exports of Canadian Produce				
Month	1935	1936	1937	1938	1935	1936	1937	1938	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
January February March March April May June July August September October November December	37,229 37,044 48,191 36,637 54,540 46,732 48,414 49,560 44,689 52,751 55,958 38,569	40,590 41,597 52,681 42,217 59,121 57,598 53,821 50,258 52,983 65,159 66,169 52,996	51,883 48,681 70,990 56,886 76,707 75,669 71,996 69,966 70,240 82,113 80,641 53,125	49,720 46,952 65,055 48,895 67,123 58,947 55,822 57,026 56,412 63,909	54,737 53,480 67,420 47,314 65,498 58,505 63,286 75,676 77,259 90,526 94,484 77,099	63,865 62,074 73,445 57,424 83,820 79,181 83,899 92,559 88,894 110,999 120,971 98,074	82,242 74,792 88,327 65,517 99,497 107,478 99,158 101,471 94,152 102,747 106,663 77,682	71,022 60,155 74,219 51,248 67,769 66,662 66,916 83,469 107,640 101,634	



Coal Harbour, Vancouver, B.C.—An aerial view showing Vancouver's "mosquito fleet". On the left is Brockton point in Stanley Park with the entrance to the Park in the foreground. In the centre is Deadman's island, famed in Indian legend.

Courtesy, Vancouver Island Tourist Association.

Non-Commodity Items of Foreign Exchange

A nation's commodity trade alone cannot be taken as a complete index of its prosperity, for there are many other exchanges besides those of goods, all of which must be taken into account in order to find out the basic state of affairs in regard to total international transactions.

The Tourist Trade.—An item in the above which deserves special mention is the tourist trade. For the year 1937 the tourist trade was calculated to have brought \$294,682,000 into the country, and after the deduction of \$124,422,000 spent by Canadian tourists abroad, the favourable balance was estimated at \$170,260,000. By far the most important factor is the automobile traffic between Canada and the United States, it being estimated that such United States tourists spent \$181,332,000 in Canada in 1937, while Canadian automobile tourists spent about \$48,893,000 in the United States. Tourist expenditures are, in part, the return which Canada derives from her picturesque scenery, fish and game, winter sports, etc.

Summary of Tourist Expenditures

Year	Expenditures of Outside Tourists in Canada (1)	Expenditures of Canadian Tourists in Other Countries (2)	Excess of (1) over (2)	
	\$	\$	\$	
1929 1931 1933 1934 1935 1935 1936 1937	309,379,000 250,776,000 117,124,000 ¹ 145,974,000 214,778,000 251,299,000 294,682,000	121,645,000 76,452,000 50,860,000 63,658,000 95,600,000 110,400,000 124,422,000	187,734,000 174,324,000 66,264,000 82,316,000 119,178,000 140,899,000 170,260,000	

¹ Canadian funds. No adjustment for exchange was considered necessary in subsequent years.

Apart from the revenue which Canada derives directly from the tourist trade there are many other important results. First-hand knowledge of the country, its products and resources, serves to stimulate the demand for such products and attracts new capital for investment here. There is, too, a value derived from neighbours becoming better acquainted and through the exchange of ideas that cannot be measured in dollars and cents. A more widely diffused knowledge of the culture, interests, and difficulties of other nations leads to a richer social and intellectual life for all and the mutual understanding which springs from such contacts is an invaluable source of international goodwill.

The Canadian Balance of International Payments.—Canada's trade with other countries is not limited to the exchange of merchandise. There are also the exchanges of numerous services, such as tourist trade, as well as the movements of capital between Canada and other countries and the transactions connected with the servicing of international investments. It is by means of the annual investigation of the balance of international payments that it is possible to discover the principal characteristics of these transactions between Canada and the rest of the world.

In 1937 Canada continued to have a substantial credit balance from its trade in merchandise, gold, and services with other countries. That is, receipts from exports of merchandise, sales of gold, and the tourist trade were more than sufficient to make payment of such current obligations as interest and dividends to investors residing outside of Canada. These

surplus credits, derived from the export of goods and services, were employed for the transfer of capital from Canada, for it is by means of exchanges of goods, gold, and services that capital is transferred between nations. The outflow of capital from Canada during 1937 was for the retirement of indebtedness abroad and purchases of outstanding securities, as well as a result of the operations of insurance companies, international 'branch plants', etc.



Canadian Canned Goods Loaded on Bullock Carts at Kidderpore Docks, Calcutta, British India.

Courtesy, Commercial Intelligence Service, Department of Trade and Commerce.

The principal changes in Canada's international transactions between 1936 and 1937 occurred in the merchandise trade and in the retirements of Canadian bond issues owned in other countries. The net credits from the trade in merchandise show a considerable contraction, which is the result of a more rapid increase in the value of imports than of exports. On the other hand, net credits from the tourist trade and sales of gold were higher. The decline in retirements was sharp. In 1936 there were, in addition to a number of bond issues maturing, a number of issues called for redemption by Canadian corporations which took advantage of favourable conditions to reduce their obligations outside of Canada. Other movements of capital out of Canada were, however, heavier in 1937.

To see how these results were achieved and to appreciate their magnitude, it is necessary to inspect the transactions in more detail. This may be done conveniently by presenting the facts in the form described as the balance of payments statement. The current account shows the source

of Canada's surplus receipts or credits from the trade in goods, gold, and services and the capital account shows the principal movements of capital between Canada and other countries during 1936 and 1937. If the estimates of the values of the transactions in the current account were exactly accurate and if there were no omissions, the net credits shown there would exactly represent the net outward movement of capital from Canada during the year. But such perfect accuracy, of course, is unattainable in practice owing to the magnitude and complex nature of the transactions.

Estimated Balance of International Payments, 1936 and 19371

	19	36	19	371
Item	Gross Value of Trans- actions	Net Receipts (+), Net Payments (-)	Gross Value of Trans- actions	Net Receipts (+), Net Payments (-)
Exchanges of Commodities, Gold, and	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Merchandise sold to other countries Merchandise bought from other countries Gold sold to other countries	947·9 625·7 132·0	+322.2	1,009·7 796·4 145·1	+213.3
Gold received from other countries. Expenditures in Canada of tourists from abroad Expenditures of Canadian tourists abroad	1.0 251.3 110.4	+131·0{ +140·9{	0·1 294·7 124·4	
Interest and dividends received from abroad Interest and dividends paid abroad Receiptsfrom abroad forfreight transportation	76·2 310·0	-233.8	78·8 325·0 111·7	-246.2
Payments abroad for freight transportation Receipts for other trade and service transactions.	98.0	} -17.8{	137·2 25·2	$\left.\right\}$ $-25\cdot5$
Payments for other trade and service transactions.	55.7	34.0	63 - 9	38.7
Net Receipts (Credits)	_	+308.5	-	+218 · 2
Capital Movements Sales of new issues of Canadian securities abroad	106-1	+106·1	89.5	+89.5
Retirements of Canadian securities owned abroad	270.0	-270.0	177 - 9	-177.9
Receipts from the sale of other securities abroad. Payments for the purchase of other securities	422.5	+7.8	506·6 511·4	-4.8
abroad Remittances to insurance companies in Canada Remittances abroad by insurance companies	4	$\left.\begin{array}{c} -26\cdot0 \end{array}\right\}$	24.0	-10.0
in Canada. Change in estimated net assets abroad of Canadian banks.	2.6	+2.6	13.0	-13.0
Other capital movements—net payments in operations of international branch plants etc	74 · 2	-74.2	82 · 6	-82.6
Net Outward Movement (Net Payments)		$-253 \cdot 7$	-	-198.8

¹ Preliminary.

CHAPTER XI

INTERNAL TRADE—WHOLESALE AND RETAIL TRADE —FREIGHT MOVEMENTS—SECURITY PRICES— COMMODITY PRICES—COST OF LIVING

Internal trade in Canada is of primary importance. The home consumption of goods and services by a population of 11,209,000 requires a greater expenditure of economic activity than that required for the prosecution of external trade, even though Canada ranks sixth among trading countries of the world. Internal trade includes the transportation and distribution of goods within the country through the medium of railways, steamships, warehouses, wholesale and retail stores, and other agencies. It includes all professional services such as those carried on by doctors, theatres, hospitals, schools, banks, insurance companies, and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income.

Historically, Canadian internal trade developed as a result of the fur trade, fur being the first great staple sought in Canada by Europeans in exchange for their products. This trade spread until it covered the whole area of the Dominion, forming the framework into which the economic activities of the nation were gradually built. Lumber, fisheries, agricultural, mineral, and other resources were gradually exploited. As population grew, local manufacturing industries supplanted certain imports. Diverse resources in various parts of the country led to a vast exchange of products and growing wealth to increasing abundance of services.

Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless, some idea of its extent may be gathered from the fact that in 1936 the national income arising from those gainfully occupied in Canada was estimated at \$4,265,000,000, while the money value of exports of Canadian produce was \$1,015,000,000.

The sections which follow deal with those features of internal trade which have not received treatment elsewhere in this handbook.

Wholesale and Retail Trade

Wholesale Trade.—The supplying of goods for the retail trade requires a complex organization, made up of many types of wholesale establishments. The 1931 census of wholesale business showed that there were more than 5,000 wholesale houses in Canada with sales amounting to slightly more than one billion dollars and 8,000 other types of wholesalers handling sales and orders to the value of two billion dollars. The capital invested in both types of wholesale establishments was valued at \$759,000,000. Ninety thousand persons found employment in wholesale establishments and their earnings totalled \$146,000,000.

Indexes of Sales of Retail and Wholesale Establishments, 1934-37 (1930=100)

Province		Re	tail Sto	res		W	Wholesale Establishments ¹					
	1930	1934	1935	1936	1937	1930	1934	1935	1936	1937		
Prince Edward Is Nova Scotia New Brunswick	100·0 100·0 100·0	$70 \cdot 3$ $77 \cdot 2$ $69 \cdot 1$	$71 \cdot 9$ $81 \cdot 6$ $73 \cdot 1$	82·4 88·7 79·4	85·3 99·8 90·9	100.0	77-0	80.3	88•0	99 -		
Quebec	100.0	69.0	71.3	76.5	86.9	100.0	74.7	77.7	84.7	100 -		
Ontario	100.0	74.9	78.0	83.0	92.9	100.0	79-4	83.3	91.5	105 ·		
Manitoba. Saskatchewan Alberta.	100·0 100·0 100·0	69·4 59·4 69·0	73 · 4 63 · 2 74 · 0	78·5 69·7 78·7	85 · 2 68 · 3 86 · 3	100.0	67.7	73.4	79.8	86.		
British Columbia	100.0	69.6	75.8	84.0	93.6	100.0	71.6	77-7	84.9	97 -		
Yukon and N.W.T.	100.0	64.9	68.3	61 · 2	75.2		-	-	-			
Canada	100.0	71.1	74.6	80 · 1	89 · 0	100.0	74.7	78-9	86.2	98 ·		

¹ Regular wholesale houses. For a full description of the index, see the report "Wholesale Trade in Canada, 1930-33", obtainable from the Dominion Statistician.

Retail Trade.—The distribution of goods and services, to meet the demands of consumers, requires many types of establishments which employ hundreds of thousands of persons and use many millions of dollars of capital. The 1931 Census of Merchandising and Service Establishments showed that in 1930 there were 125,000 retail stores in Canada with sales amounting to \$2,756,000,000. Including proprietors receiving a fixed salary, there were about 300,000 persons on the payrolls of these stores and approximately \$300,000,000 paid out to them in salaries and wages during the year. The capital invested in these retail stores amounted to \$1,200,000,000.

Current Trend.—The trend in sales of retail stores and regular wholesale houses, by provinces, for the years 1930 and 1934 to 1937 is shown above. No allowances have been made in the indexes for changes in retail and wholesale prices during the period. While the decline in retail trade from 1930 to 1933 was 35.2 p.c. (34.3 p.c. in wholesale trade), some kinds of business had much heavier losses than others. How much of the decrease was due to the decline in prices and how much to a reduction in physical volume of trade, it is not possible to say. Reports on retail and wholesale trade for recent years show that the improvement which commenced in 1934 was continued throughout 1935, 1936, and the first half of 1937, the dollar value of retail sales for the latter year being 11 p.c. above 1936, 37 p.c. above 1933, and within 11 p.c. of the amount recorded for 1930. Monthly indexes based on returns from chain and department stores reveal a levelling-off in trend during the latter part of 1937 and a slight recession in 1938. Sales for the first eight months of the latter year are 2 p.c. below those for the corresponding eight-month period in 1937.

Chain Stores.—In recent years, great changes have taken place in the distribution of goods, the chain store now doing a large proportion of the work of retailing merchandise. The survey of chain stores, made in connection with the Census of Merchandising, shows that chain stores (other than department store chains) do about 17 p.c. of the total retail business

of the Dominion. This ratio has remained relatively constant since 1930, the first year for which such data are available. The proportion of the total business transacted by chains varies widely in different lines of trade. The modern variety store is a typical chain store development, practically the entire business of such stores being transacted by chains. The multiunit type of distribution is also important in the food retailing field where chains accounted for 29·3 p.c. of the combined business of all grocery stores and meat markets in 1937. The trend in chain store business in Canada from 1931 to 1937 is shown below.

Summary Statistics of Chain Stores, 1931-37

	Number	Number	Value of Chain Sales		
Calendar Year	of Chains	Chain Stores	Amount	P.C. of Total Sales	
			\$		
1931 1932	506	8,557	434, 199, 700	18.7	
1933	486 461	8,398 8,230	360, 806, 200 328, 902, 600	18·8 18·5	
1934 1935	445 445	8,210 8,024	347, 186, 100	17.9	
1936	457	8,024 8,124	364,589,800 394,935,000	17.9	
1937	447	7,815	414,133,300	16.9	

Retail Services.—More than 40,000 establishments are engaged in supplying services of various kinds to the Canadian public. The provision of amusements and domestic and personal services forms the chief business of the service groups. In 1930, \$249,000,000 was spent by consumers in such establishments; employment was provided for 64,000 persons.

Motion Picture Theatres.—The motion picture continues as the most popular form of amusement in Canada. Figures for the year 1937 show 1,047 motion picture theatres with a total of 134,374,061 paid admissions. Box office receipts for the same year (exclusive of amusement taxes) were \$32,499,300 or 10 p.c. greater than for 1936. They were 26·1 p.c. above the low point reached in 1933 but were still 15 p.c. below the amount recorded for 1930.

Internal Freight Movement

The subject of interprovincial trade is of interest to many persons, but comprehensive data are even more difficult to record than those of international trade. There are practically no restrictions to movements across the provincial borders and consequently the records of movements of commodities, people, money, etc., are very incomplete.

The railways are required to record the tons of revenue freight, under 76 commodity classes, loaded and unloaded and received from and delivered to foreign railways and boat lines for each province. The excess of loadings in any province over unloadings shows a net movement out of that province, but does not reveal the places to which the excess was shipped and, similarly, the excess of unloadings over loadings indicates a net import into the province. For the Prairie Provinces, where only a small proportion of the freight is moved by other agencies than the railways, the net movements into and out of the provinces indicate fairly accurately net

imports and exports, but in the eastern provinces where vessels and motor vehicles are more important factors in transportation only a part of the story is told by these railway data. No records are yet available of the movements of commodities, people, etc., by vessel or motor vehicle from province to province.

Security Prices

The Bureau of Statistics publishes several series of index numbers, designed to measure the movement of security prices in general and of important groups of stocks in particular. These constitute an important barometer of business conditions. The table below shows the course of the Investors' index number for representative months in the years from 1936 to 1938 inclusive. A table of the index numbers of mining stocks by months during the years 1935-38 is also given.

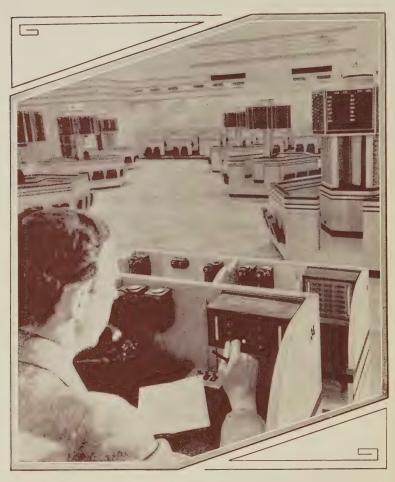
The record of Canadian common stock prices, extending back to 1914, is quite different from that of commodity prices. During the War and in the years immediately following, the average level of commodity prices advanced to nearly two and one-half times its height in 1914, while common stock prices averaged less than two-thirds of 1914 levels during this period. Again, during the years 1927 to 1929, the behaviour of these two price groups was very different. This time stock prices increased by approximately 100 p.c., while commodity prices drifted slowly downward. Both commodities and stocks declined subsequent to the latter part of 1929, and since the spring months of 1933 they have both moved irregularly upward.

Investors Monthly Index Numbers of Common Stocks, 1936-38 (1926=100)

Year and Month	Banks	Utilities	Industrials	Total
1936 (representative months)— January. March. June. September. December		52·4 55·5 53·3 54·8 62·8	187·7 194·8 189·3 200·6 212·8	112 · 9 117 · 4 113 · 8 119 · 5 129 · 2
1937 (representative months)— January. March June September December	$94 \cdot 4$ $95 \cdot 9$ $92 \cdot 3$ $84 \cdot 9$ $81 \cdot 6$	$\begin{array}{c} 68.5 \\ 71.0 \\ 63.2 \\ 57.4 \\ 49.5 \end{array}$	$\begin{array}{c} 222 \cdot 0 \\ 241 \cdot 7 \\ 210 \cdot 1 \\ 193 \cdot 3 \\ 167 \cdot 7 \end{array}$	137 · 4 147 · 2 129 · 4 118 · 9 103 · 7
1938 (representative months)— January. March. June. September.	$84 \cdot 3 \\ 80 \cdot 5 \\ 81 \cdot 0 \\ 83 \cdot 4$	$48.4 \\ 43.1 \\ 45.1 \\ 42.7$	$ \begin{array}{c} 177 \cdot 0 \\ 164 \cdot 0 \\ 163 \cdot 5 \\ 162 \cdot 2 \end{array} $	107·7 99·2 100·0 98·6

From the extreme high of 217·1 registered in September, 1929, a general index of common stock prices dropped sharply at first, and then more gradually, until it reached 43·2 in June, 1932. Temporary recovery was followed by a secondary decline lasting until March, 1933, when the index was 48·9. Subsequent intermittent recovery carried this series upward to 147·2 in March, 1937, before any major reaction occurred. This

continued until April, 1938, at which time a low of $97 \cdot 9$ was reached. Hesitant recovery subsequently, was checked in September by international tension in Europe, but the movement upward was resumed in October.



The Floor of the Toronto Stock Exchange.—The 'phone clerk shown at his desk is in instant touch with the 'market' and a large volume of transactions can be handled expeditiously. The new exchange building, opened in 1937, is equipped with the most modern facilities—ticker services speeded by an electric eye, the latest annunciator and timing systems, and a 'trading post' system with all the latest improvements.

Courtesy, Canadian Industries Limited.

The post-war peak in mining share prices was reached in October, 1927, two years prior to the highest levels in utilities and industrial stocks. At that time a price index for mining issues touched 143.8, considering prices in 1926 as equal to 100.0. It then declined irregularly to an all-time

low of 46·8 during June, 1932. From that month until February, 1937, the general trend of mining stock prices was decidedly upward, although the advance was interrupted by a long period of gradual reaction beginning in the final quarter of 1934 and extending through the greater part of 1935. At the crest of the rise in February, 1937, the mining stock index was 177·2. This was followed by sharp recessions in the spring and early autumn, but after establishing a new low of 121·6 in October, mining stock prices moved upward irregularly to 156·0 for August, 1938. A tense international outlook in September brought further reaction, but prices moved sharply upward again in October.

Index Numbers of Twenty-four Mining Stocks, by Months, 1935-38

Month	1935	1936	1937	1938	Month	1935	1936	1937	1938
January February March April May June	124·3 124·2 128·2 128·7 128·3 123·0	142·4 149·8 144·2 145·8 150·3 156·1	$174 \cdot 6$ $177 \cdot 2$ $172 \cdot 6$ $154 \cdot 1$ $142 \cdot 1$ $134 \cdot 7$	144·1 147·7 134·9 133·9 139·5 145·8	July August September October November December	117·9 115·6 119·1 118·6 125·5 133·6	157·6 158·1 157·6 158·2 167·0 167·7	141·8 146·2 127·6 121·6 129·4 134·3	151·1 156·0 144·0 157·4 159·6

Commodity Prices

There have been three distinct periods in price history since the beginning of the Great War. During the first, a rapid rise and subsequent reaction occurred when the Canadian wholesale price index advanced from 64·0 to 155·9 between 1913 and 1920, and then declined to 97·3 for 1922. It remained close to this level (approximately 50 p.c. above price averages for 1913) until near the end of 1929. This seven-year stretch of comparative stability constituted the second period. During the final period, a decline carried the wholesale index downward from 95·6 for 1929 to 66·7 for 1932, after which a gradual recovery advanced it to 72·1 for 1935. Price levels at that time exhibited a tendency to stabilize at somewhat more than 10 p.c. above pre-war levels, but a secondary advance much more impressive than the first raised the wholesale price level sharply in the latter half of 1936, and still higher in 1937. This rise has not been maintained, however, and the October, 1938, index of 74·1 showed a sharp decline from the 1937 average of 84·6.

Index Numbers of Wholesale Prices, 1913-37 1 and by Months, 1938 (1926-100)

1913	65-5 1927 70-4 1928 84-3 1929 114-3 1930 127-4 1931 134-0 1932 155-9 1933 110-0 1934 97-3 1935 98-0 1936 99-4 1937	66·7 July	83 · 8 83 · 6 83 · 1 82 · 3 80 · 1 78 · 6 76 · 0 74 · 1 73 · 5
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¹ 236 commodities to 1926; 502 from 1926 to 1934; subsequently 567.

Cost of Living

Statistics of cost of living constitute a very important phase of price statistics. Index numbers of retail prices, rents and costs of services issued by the Bureau of Statistics are constructed to measure the general movement of such prices and costs in the Dominion as a whole. They are computed in such a manner as to make comparisons possible with other general index numbers constructed on similar principles, as, for example, the index of wholesale prices. Calculated as they are on the aggregative principle, i.e., the total consumption of each commodity, the Bureau's index numbers afford an excellent measurement of changes in the average cost of living in the Dominion as distinguished from that of any particular class or section.

Index Numbers of Retail Prices, Rents, and Costs of Services, 1930-37, and by Months, 1938¹

(Average prices in 1926=100)

Year	Total Index	Food Index	Fuel Index	Rent Index	Cloth- ing Index	Sun- dries Index
1930. 1931. 1932. 1933. 1934. 1935. 1936. 1937.	99·2 89·6 81·3 77·5 78·6 79·1 80·8 83·1	98.6 77.3 64.3 63.7 69.4 70.4 73.4 77.3	95·7 94·2 91·4 87·7 87·7 86·8 86·4 84·9	105·9 103·0 94·7 85·1 80·1 81·3 83·7 86·9	$\begin{array}{c} 93 \cdot 9 \\ 82 \cdot 2 \\ 72 \cdot 3 \\ 67 \cdot 1 \\ 69 \cdot 7 \\ 69 \cdot 9 \\ 70 \cdot 5 \\ 72 \cdot 7 \end{array}$	$\begin{array}{c} 99 \cdot 4 \\ 97 \cdot 4 \\ 94 \cdot 6 \\ 92 \cdot 6 \\ 92 \cdot 1 \\ 92 \cdot 2 \\ 92 \cdot 9 \\ 93 \cdot 4 \end{array}$
1938!— January February March April May June July August September October November December	84·1 84·0 84·1 84·8	78·4 77·9 78·6 78·8 77·7 78·1 78·4 80·7 77·6 77·1	85 · 6 85 · 4 85 · 7 85 · 7 85 · 3 84 · 5 84 · 6 84 · 8	89·0 89·0 89·0 89·0 90·3 90·3 90·3 90·1	73·3 73·3 73·7 73·7 73·7 73·0 73·0 73·0	93·7 93·7 93·7 93·6 93·6 93·6

¹ Preliminary figures.

The general movements in living costs since pre-war days have been similar to those already outlined for wholesale commodity prices. From 65·4 in 1913, the Bureau's cost of living index mounted to 124·2 in 1920, and then declined sharply to 100·0 in 1922. There was little change of importance from that time until 1930, when the index was 99·2. In the next three years, however, it followed the lead of primary markets and declined to 77·5. The subsequent rise has been more gradual as indicated by the 1937 average of 83·1, and the November, 1938, figure of 83·7.

CHAPTER XII

TRANSPORTATION AND COMMUNICATIONS

Steam Railways.—There are 35 railways in Canada with 42,727 miles of first main track. The Canadian National System with 21,793 miles of road and the Canadian Pacific with 16,719 miles constitute over 90 p.c. of the total. These two railways jointly own the Northern Alberta, with 923 miles of road, and the Toronto Terminals with 3·19 miles. The Canadian National operates the Hudson Bay Railway, with 510 miles of road, for the Dominion Government and owns the Central Vermont with 25 miles of road in Canada and the Thousand Islands Railway with 4·5 miles. United States railways operating in Canada account for 863 miles and, of the remaining 1,891 miles, the provincially-owned roads, the



Quick servicing at terminals is essential to modern transportation schedules. The gasoline 'mule' quickly spots trailers at express cars and removes them when loaded.

Courtesy, International Harvester Company of Canada Limited.

Temiskaming and Northern Ontario and Nipissing Central in Ontario with 574·43 miles, the Pacific Great Eastern with 347·8 miles in British Columbia and the Greater Winnipeg Water District with 92·0 miles, owned by the city of Winnipeg, account for over half. Thus 23,810 miles, or 56 p.c. of the total miles of railway in Canada, are publicly owned. The lines constituting the Canadian National and the Pacific Great Eastern were taken over by the Dominion and Provincial Governments because of the inability of the companies to continue operations.

The Railway Commission, organized in 1904 to supersede the Railway Committee of the Privy Council, and now (1938) the Transport Commission, has jurisdiction over all freight, passenger, and other railway rates, except certain rates on grain in the Prairie Provinces which are fixed by statute. The Commission also has jurisdiction over safety features of railway operation, the train service, and the abandonment of services and track and other relevant railway activities and jurisdiction over rates for certain water-borne traffic.

Australia has a slightly greater railway mileage per capita than Canada, but Canada's average is higher than any other country and is about twice that of the United States. Both freight and passenger traffic, however, are considerably lighter than in the United States, the average ton miles per mile of road and passenger miles per mile of road being less than half of the respective United States averages.

Freight traffic reached a low point in 1933 but showed increases in the following four years amounting to 82,220,374 tons and 26,926,000,000 ton miles in 1937.

Passenger traffic has shown a long, almost continuous decline since 1920, when over 51,000,000 passengers were carried, to a low point of 19,000,000 in 1933. The revival between 1934 and 1937 has been very slight, the total for 1937 being 22,038,709 passengers.

Revenues declined with the traffic, reaching a low point in 1933, but they have been increasing during the past four years and, at \$355,103,271 in 1937, they were above 1932 and were about 1 p.c. below the 1931 revenues.

The railways employed 187,846 persons in 1929 and paid \$290,732,500 in wages, but by 1933 the number of employees was reduced by 35 p.c. and the payroll was reduced by 46 p.c. Increased work and increases in rates of pay have brought the number of employees up to 133,467 for 1937 and the payroll to \$193,355,584.

The table below shows gross revenues and the number of cars of revenue freight loaded, month by month, for 1936 to the latest month in 1938 for which data are available. The figures indicate the recovery in 1936 and 1937 and the decline in the first half of 1938 due to the small grain harvest and other factors.

Railway Statistics, by Months, 1936-38

Month		ailway Gross ating Reven		Total Revenue Car Loadings				
	1936	1937	1938	1936	1937	1938		
	\$'000	\$'000	\$'000	No. '000	No. '000	No. '000		
January February March April May June July August September October November December	22, 234 22, 597 25, 535 26, 050 27, 022 26, 049 27, 301 28, 637 33, 103 33, 840 29, 034 30, 108	25,140 24,710 28,691 29,458 29,257 28,253 29,405 29,211 32,882 34,781 30,585 28,969	24,362 23,316 25,925 25,192 25,445 24,577 25,773 28,439 34,504	173 180 192 193 190 201 203 222 251 263 220 206	192 186 214 208 209 214 219 231 262 260 235 204	187 180 200 185 190 187 183 213 250 257 219		

Electric Railways.—The first street railways in Canada were horsedrawn cars in Montreal and Toronto in 1861 and, with the advent of the electric motor, electric cars were substituted. St. Catharines is credited with the first electric street railway system operated in Canada. This was 7 miles in length and was opened in 1887. Vancouver followed in 1890, Ottawa in 1891, and Toronto and Montreal in 1892. They provide cheap mass transportation in cities and early in the present century extensions to summer resorts and neighbouring cities and towns were operated. The changing habits of the people with the extensive use of automobiles have caused most of the interurban and rural lines to cease operation and, since 1920, 26 railways have ceased to operate and several other systems have curtailed their rural services. Motor buses are providing the public services and private automobiles carry an enormous traffic. Despite the increase in urban population, the electric railway traffic which is largely urban decreased from 1920 to 1925. It increased from 1925 to 1929 and decreased again to 1933. For the past five years a revival has been experienced and the number of passengers increased from 585,385,094 in 1933 to 631,894,662 in 1937. Over half of these were carried by the Montreal and Toronto systems and, of the 37 railways, 9 in the larger cities carried over 87 p.c. of the total traffic. The total investment for 1937 was \$208,938,656, gross earnings were \$42,991,444, and miles of track operated were 1,771.

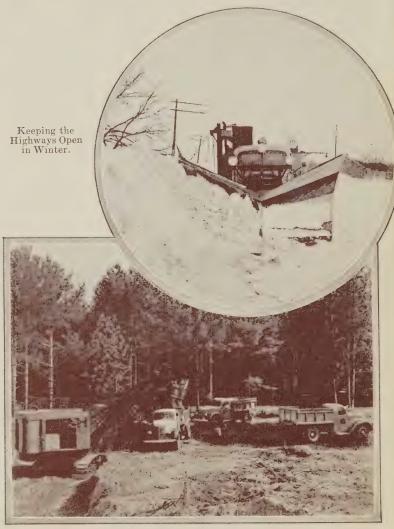


Hauling Supplies to Mines north of Hudson, Ont.

Courtesy, International Harvester Company of Canada Limited.

Express Companies.—Express service might be defined as an expedited freight service on passenger trains. Services provided by the Canadian National, Canadian Pacific, and Northern Alberta Railways and by the Railway Express Agency on United States lines in Canada operate over 62,634 miles of railway, steamer, motor-vehicle, and aircraft routes. In

addition to handling freight ranging from small packages to car loads of fish, fruit, race horses, etc., money orders are sold and redeemed. Total revenues for 1937 amounted to \$17,937,567, employees numbered 4.611, and the payroll, including part-time wages, amounted to \$7,311,007.



Highway Building through a Densely Wooded Stretch.

Courtesy, International Harvester Company of Canada Limited.

Roads and Highways.—Since the advent of the motor vehicle, and more especially since 1919 when the Dominion Government made a grant to the provinces of \$20,000,000 for the construction of roads and to relieve

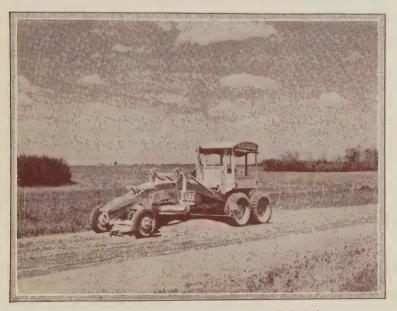
unemployment, the mileage of paved highways has increased rapidly each year. For the seven years 1929-35 the average expenditure on rural roads was over \$73,000,000 exclusive of some expenditures on local roads by rural municipalities. These expenditures ranged from \$93,000,000 in 1930 to \$40,500,000 in 1933. The mileage of surfaced roads during these years increased by 19,000, amounting to 99,350 miles in 1936. This included 88,229 miles of gravel surface and 11,121 miles of cement concrete, bituminous macadam and concrete, water-bound macadam, and oil-treated gravel.

Mileage Open for Traffic and Expenditures on Highways, 1936

Class of Highway	Mileage	Expenditure ¹	\$
Earth—not surfaced Gravel or crushed stone Oil-treated gravel Water-bound macadam Bituminous macadam Bituminous concrete Cement concrete Asphalt Other	311,098 88,229 889 1,549 3,219 2,321 2,030 713 400	Construction	38,210,662 19,321,316
Total	410,448	Total	57,531,978

¹ Including bridges and ferries.

² Including footpaths and sidewalks \$14,519.



Motor Patrol for Maintenance Work on Gravelled Highways.

Courtesy, International Harvester Company of Canada Limited.

Motor Vehicles.—The number of motor vehicles registered in Canada has increased steadily and rapidly. In 1906 there were only 1,447 vehicles registered; by 1916 they had increased to 128,328, by 1926 to 832,268 and in 1937 a peak of 1,319,702 was reached. This was an average of one

motor vehicle to each 8·4 persons. This extensive use of motor vehicles is revolutionizing conditions in Canada as in other countries. The passenger travel by steam railways has declined rapidly but the total travel has probably increased many times during the past two decades. The consumption of gasoline in 1937 amounted to over 718,620,000 gallons and around 84 p.c. of this was consumed by motor vehicles. The number of persons killed in motor vehicle accidents has increased with the increased use of motor vehicles and in 1937 amounted to 1,626 persons. This was an increase over 1936 of 310 persons, or 23·6 p.c., and over 1933 of 671 persons, or 70 p.c., whereas the increase in gasoline consumption by motor vehicles, which measures approximately the miles run, increased 13 p.c. over 1936 and 43 p.c. over 1933.

The provincial taxes for registrations of motor vehicles, drivers, operation of trucks and buses in public service, etc., amounted to \$25,993,905 in 1937 and the taxes from the sale of gasoline to \$38,373,947 making a total of \$64,367,852. Out of this must be deducted the costs of administration before computing revenue available for highway work.

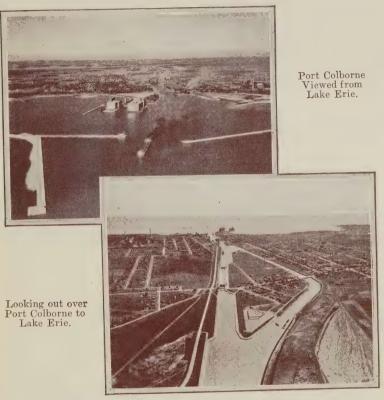
Motor Vehicles Registered in Canada, in Recent Calendar Years

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
1920 1925 1930 1931 1932 1933 1934 1935 1936 1937	1,418 2,947 7,376 7,744 6,982 6,940 7,206 8,231 7,632 8,011	43,758 41,013 40,648 41,932 43,952 46,179	18,863 34,699 33,627 28,041 26,867 29,094 31,227 33,402	41,562 97,418 178,548 177,485 165,730 160,012 165,526 170,644 181,628 197,917	177,561 342,174 562,506 562,216 531,597 520,353 542,245 564,076 590,226 623,918	78,850 75,210 70,840 68,590 70,430 70,660 74,940	127,193 107,830 91,275 84,944 91,461		97,932 91,042 88,554 92,021	724,048 1,232,489 1,200,668 1,113,533 1,083,178 1,129,532 1,176,116 1,240,124

¹ The figures include vehicles in Yukon.

Canals.—Canals were the earliest large transportation works in Canada. One of the first locks was a small one constructed by the Hudson's Bay Co. at Sault Ste. Marie which was destroyed by United States troops in 1814. Another was built at the Lachine rapids in the St. Lawrence above Montreal in 1825, followed by the Welland canal in 1829 to overcome the obstacle of Niagara falls. The Rideau canal (military in primary purpose), the St. Lawrence System, and the Chambly canal followed. To-day there are six canal systems under the Dominion Department of Transport, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to lake Huron, and (6) from the Atlantic ocean to Bras d'Or lakes in Cape Breton. These canals have opened to navigation from the Atlantic about 1,890 miles of waterways. Under the Department of Public Works or other authority are minor canals and locks to facilitate local navigation on disconnected waterways. Among projected canals the most important are those connected with the deepening of the St. Lawrence waterway.

The Great Lakes and St. Lawrence river form one of the busiest waterways in the world. More traffic passes up and down the Detroit river than any other waterway and the traffic through the canals at Sault Ste. Marie in 1929 reached a peak of 92,616,898 tons, more than through the Panama and Suez canals combined. The greater part of this traffic is iron ore from lake Superior to United States ports on lake Erie and return cargoes of coal, and grain down-bound destined to St. Lawrence ports, Buffalo, Port Colborne, and other lower lake ports.



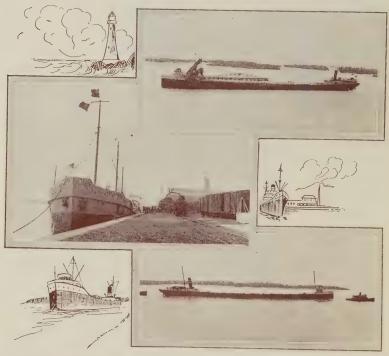
Aerial Views of Port Colborne Harbour, the Lake Erie Terminal of the Welland Canal.

Courtesy, Department of National Defence.

The maximum draught of vessels plying between the lakes is governed by channels in the Detroit and St. Mary's rivers, and is limited to about 21 feet. Since 1932 when the New Welland Ship canal, with 25 feet in the stretches between locks (the locks have 30 feet of water above the sills), was opened, large upper lake vessels have passed down as far as Prescott. The St. Lawrence canals have a depth of 14 feet (reduced in periods of low water) so that ocean vessels, except of very small tonnage, cannot sail up into the lakes; a few such vessels have been engaged in the Great Lakes traffic for several years, bringing over cargoes from European ports. Traffic using the St. Lawrence canals reached a new high record in 1937 with 9,195,439 tons despite a relatively light movement of wheat. About a third of the St. Lawrence and Welland Canals traffic is grain and other agricultural products.

Shipping.—The tonnage of sea-going and inland international vessels entered and cleared at Canadian ports showed an almost continuous increase up to 1914, and again during the fiscal years ended Mar. 31, 1920 to 1929. The effects of the depression, however, are evident here also but each of the years ended Mar. 31, 1934, 1935, 1936, and 1937 showed an increase over the preceding year, 1937 recording a new high at 94,586,746 tons. The coasting vessels have also shown increases during the past four years, and amounted to 91,421,172 registered net tons in 1937.

The vessels on the Canadian Shipping Registry in 1902 numbered 6,836 with a total of 652,613 tons. There was a fairly steady increase to 8,573 in 1919, followed by a decrease to 7,482 in 1921; since 1921 there has been an increase to 8,910, representing 1,338,723 tons in 1937.



Canada's splendid system of inland waterways, linking the St. Lawrence and the Great Lakes, permits economical transportation to the heart of the continent. The layout, reading downwards, shows: (1) S.S. Dow Chemical, a modern self-unloading collier, which plies regularly between Lake Erie coal ports and Toronto; (2) S.S. Elsa Esberger, discharging at Toronto, direct from vessel to tank cars, a cargo of peanut oil from Hamburg, Germany; (3) S.S. Laketon, grain carrier, which plies regularly between the head of the Lakes and Toronto.

In the '70's shipbuilding was an important industry in Canada, especially in the Maritime Provinces; the vessels built were mostly wooden sailing vessels. The invention of the iron steamboat greatly affected the industry in Canada, and there was a more or less steady decline in the

number of vessels built and registered each year from 1885 to 1914. The War stimulated shipbuilding and there was a temporary activity assisted by the marine program of the Dominion Government. According to the figures published by the Department of Transport, the number of vessels built and registered in Canada in 1937 was 442 of 15,024 tons gross. Of this number, 6 sailing and 14 motor vessels were built of steel, the remainder being wooden vessels, powered as follows: sail 33, steam 3, and motor 386. The value of production in the shipbuilding industry in 1936 as collected by the Census of Industry, was \$6,241,054, of which only \$209,029 was for vessels built or under construction, while \$4,956,960 was for repairs and custom work and \$1,075,065 for other products, including aeroplanes, boilers, engines, structural steel, etc.



Telegraphs.—Canada's first telegraph line was erected in 1846-47 between Toronto, Hamilton, St. Catharines, and Niagara. In 1847, also, the Montreal Telegraph Co. was organized and a line built from Quebec to Toronto. Other lines rapidly followed, to be brought eventually under the single control of the Great Northwestern Telegraph Co., which remained alone in the field until the building of the Canadian Pacific railway and the Canadian Government telegraph lines. In 1937, there were 369,411 miles of telegraph wire in Canada, handling 13,456,330 messages, and the gross revenue was \$11,410,333. In addition, 6 transoceanic cables have termini in Canada, 4 on the Atlantic and 2 on the Pacific. There are also 18 other cables from Atlantic ports to Newfoundland, St. Pierre and Miquelon, Bermuda, and United States and Canadian ports. These handle over a million cablegrams annually. There

are also radio stations open for commercial traffic, mostly governmentowned, but operated in part by the Marconi Wireless Telegraph Co., in addition to stations operated in connection with shipping, or private commercial stations operated by canneries, logging companies, etc. The number of wireless messages handled is now over 300,000 a year.

Telephones.—The discovery of the telephone was, in regard to its main principles and the first electrically recorded transmission of the human voice made in Canada, although Alexander Graham Bell was a resident of the United States at the time of its recorded invention. The first long-distance talk was conducted by Alexander Graham Bell between Brantford and Paris, a distance of eight miles, on Aug. 10, 1876. Telephone development in Canada, however, dates only from 1880. In 1883 there were but 4,400 rental-earning telephones, 44 exchanges and 40 agencies, with 600 miles of long-distance wire. In 1936 the number of telephones was 1,266,228 with a wire mileage of 5,197,042, the investment being \$330,048,263. In the three Prairie Provinces there are well-organized government systems. Next to the railways, the telephone companies are probably the largest annual investors in new plant and construction in the Dominion. Canada has more telephones in proportion to population than any other country except the United States.

Air Navigation.—The aeroplane has provided a vastly improved means of transportation in the undeveloped northern areas of Canada where the only alternatives were canoe in summer and dog team in winter. Air travel soon proved not only much quicker, but much cheaper, and a rapid expansion took place without the aid of government subsidy. The mileage flown by aircraft increased from 185,000 in 1922 to 10,626,630 in 1937, when 160,517 passengers, 26,205,766 pounds of freight, and 1,411,213 pounds of mail were carried. Furthermore, the aeroplane has proved a great boon in the administrative field in Canada in the development and conservation of her vast natural resources. Aerial forest fire patrols are now carried on over large parts of almost every province; fishery patrols by aeroplane protect territorial waters and enforce fishing regulations; and by the use of aeroplanes equipped with special cameras, preliminary surveys, which would have taken years by the older methods, are now rapidly made over large tracts of difficult country. This development in Canada has differed from that in other countries where air traffic between the chief centres of population has received most attention. The Trans-Canada Airway is designed to facilitate progress along this line.

Trans-Canada Airway.—Experimental flights between Vancouver and Winnipeg were commenced on Jan. 1, 1938, and on Mar. 4 a beginning was made in carrying mail over this portion of the airway, while by Oct. 1 modern aids to air navigation, including night-flying facilities, were completed and a regular air-mail service was inaugurated. On Oct. 17 an express service was extended to Toronto and Montreal, and on Dec. 1 a daily air-mail service between Vancouver and Montreal was established. Service between Lethbridge and Edmonton was started Oct. 1 and on Aug. 4 daily service was established on a feeder line from Regina serving Moose Jaw, Saskatoon, Prince Albert and North Battleford. There are now in operation 30 radio range stations at approximately hundred-mile intervals except in the mountain section where the spacing is closer.

Adjacent to most of these are airports fully lighted for night flying. Meteorological services provide weather maps 4 times daily and district forecasts for the ensuing 6 hours. Work on the section east of Montreal is progressing with a view to extending the service to Moncton in the autumn of 1939. A new aerodrome is under construction at Charlottetown and the municipal airports at Saint John and Halifax are being enlarged and improved.



Courtesy, Canadian Airways, Limited.

National Radio.—When the Canadian Broadcasting Corporation replaced the Canadian Radio Broadcasting Commission, on Nov. 2, 1936, national radio broadcasting entered a second phase in Canada. Established on a basis similar to that of the British Broadcasting Corporation, the new organization has a board of nine governors, a general manager and an assistant general manager.

The Board of Governors (members are appointed for three years in rotation) acts as "trustee of the national interest in broadcasting", and is responsible for the policies of the Corporation. It is thus the guarantee to the public that broadcasting is being administered in a non-partisan and business-like manner. Members of the Board of Governors are unpaid. The CBC is responsible to Parliament through the Minister of Transport.

Marked progress has been made towards improvement in coverage, reception and program services. The most important technical developments of the past year have been the inauguration of two 50,000-watt

transmitting stations, CBL at Hornby, Ont., serving the province of Ontario, and CBF at Verchères, Que., for the province of Quebec—the first high-power transmitters in Canada. CBA, another 50,000-watt transmitter, is now being constructed at Aulac, Cole's Island, N.B., to give coverage in the Maritime Provinces, while at Watrous, Sask., a fourth station of similar power, to be known as CBK, also under construction, is destined to serve the Prairie Provinces. A 5,000-watt transmitter, CBR, was installed at Vancouver, B.C., in 1937. Thus, a notable advance has been made towards completion of the plan envisaged in the report of the Royal Commission on Radio Broadcasting, appointed in 1928 to investigate the whole problem of broadcasting in Canada.

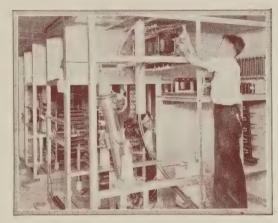


Modern Transmitter Buildings and Antenna Towers Recently Brought into Operation by the Canadian Broadcasting Corporation.—The upper pictures show the transmitter building at Hornby, Ont., and the top of the 647 foot antenna tower tapering into the sky. The lower pictures are of the transmitting station at Verchères, P.Q., and the base of the 600-foot vertical radiator tower. This tower weighs about 70 tons and is supported, as shown, by a ball and socket joint resting on a special porcelain insulator; steel guy ropes hold the tower in position. The buildings are constructed of concrete and glass brick and are most modern.

Courtesy, Canadian Broadcasting Corporation.

Apart from the high-power transmitters already completed or under construction, CBC is steadily adding new technical equipment to its facilities. Canada's first complete mobile unit, including short-wave sending and receiving apparatus, two recording machines and a pack set, which can be carried by a commentator in territory inaccessible to the unit proper, came into use for the first time in June, 1938.

On Oct. 1, 1937, contract was completed for transmission facilities enabling national network programs to be heard sixteen hours each day in all five Canadian time zones. This nation-wide network carries both the sustaining programs of the Corporation and a limited number of carefully selected commercial features. In addition to the stations owned by the CBC, the national



Radio Broadcasting.—One of the massive 50.000-watt transmitters now being constructed for the CBC's two new high-power stations in the Maritime Provinces and Western Canada. The tension of the current passing through the cables will be 18.000 volts.

Courtesy, Canadian Broadcasting Corporation.

network includes a large number of privately-owned transmitters.

During 1938 the CBC inaugurated a series of broadcasts by leading Canadian symphony orchestras. Commencing in May with the Toronto Promenade Symphony, 24 concerts were broadcast over the national network in Canada, and over extensive networks of the NBC in the United States. From British Columbia, the Vancouver Symphony open-air concerts at Stanley Park were broadcast nationally on alternate Sunday afternoons. This policy is being continued during the fall and winter season of 1938-39 with weekly broadcasts by the Toronto and Montreal Symphony Orchestras. Other important musical organizations in Canada will later be included. Chamber and concert music have been represented by carefully selected groups throughout the Dominion.

A wide variety of dramatic presentations have been offered, and in the field of special broadcasts outstanding official events of national and international importance such as: the opening of the Thousand Islands Bridge at Ivy Lea, Ont., with the Prime Minister of Canada and the President of the United States participating; the relays from Europe describing the annexation of Austria by Germany; the war crisis during the month of September; the Eucharistic Congress at Quebec; Salute to Australia (Jan. 27, 1938); etc., have been given. Weekly talks and discussions on citizenship, general questions of the day, biographical sketches of noted men, and adventure topics have occupied important periods on national and regional networks and vocational training and authoritative information on farming have been outlined in regional talks.

During 1938 an exchange of producers between the BBC and CBC has been put into effect. A CBC representative spent six months early in 1938 with the BBC, during which time he made a study of broadcasting in England. Simultaneously, a BBC representative was the guest of the CBC. At the present time a second Canadian producer is in London, while one of the most experienced producers of the BBC has arrived in Canada. In addition, a producer from the CBC will spend the winter of 1938-39 in Australia in exchange for a producer from that Dominion.

Close relations have been established with United States broadcasters and exchange of programs by United States networks has met with increased success; there is a growing demand for more CBC programs by all three United States networks.

Negotiations pertaining to international exchange broadcasts with other countries have resulted in an arrangement with the Italian broadcasting authorities for excerpts of operas from Milan. German programs will continue, subject to reasonable conditions of transmission, and special programs from France will be a feature of the 1938-39 season.

The Post Office.—The Post Office is under the direction of a special Department of the Dominion Government. The number of post offices has increased from about 3,470 in 1867 to over 12,000 in 1938, the postal revenue in 1937-38 being approximately \$42,998,000, showing a net increase of \$1,817,000 over the previous year. Rural mail delivery dates from 1908. The Post Office Department, in the fiscal year 1937-38, issued money orders to the amount of \$134,000,000 payable in Canada and \$10,000,000 payable in other countries, a combined net increase over the previous year of \$11,000,000. In addition, postal notes to the value of \$12,486,000 were issued in 1937-38. During the War, there was a general increase in postage rates, but these were gradually reduced again between 1926 and 1930. They were increased once more on July 1, 1931, and since that date the letter rate of postage for Canada, Great Britain, the British Empire.* France, the United States and all other places in North and South America. has remained at 3 cents for the first ounce and 2 cents for each additional ounce.

In its per capita use of the mails Canada takes a high place. In 1868, the year following Confederation, the average postal expenditure for each member of the population was less than 27 cents, whereas during 1938 each person in Canada expended approximately \$3.70. This is remarkable when it is considered that rates of postage have decreased during this period.

Official air-mail service was inaugurated in October, 1927. Since that time great advances have been made, both in the number of services and in the volume of mail conveyed as shown by the following statistics:—

								Mileage	Mail
								Flown	Carried
									lb.
1927-28	 	9,538	38,484						
1931-32	 	1,229,021	443,501						
1935-36	 	852,108	1,189.982						
1936-37	 	 	 		 	 	 	977,864	1,200,831
1937-38	 	1,474,041	1,367,972						

^{*} Except places in the Empire included in the Empire air-mail scheme to which the rate for letters is 6 cents per half ounce or fraction thereof and 4 cents each for post cards.

The Manufacture of Aircraft in Canada

The layout, reading downward, shows.-Left: (1) A modern aircraft plant recently constructed at Fort William, Ont.; (2) Fuselages being constructed in a Toronto plant; (3) An assembly line showing engines being installed and tested. Centre: (1) Westland "Lysander" (a two-seat army co-operation plane) soaring above the clouds-28 of these are being constructed at Malton near Toronto; (2) A Supermarine "Strangaer" flying boat in flight-10 of these machines, the largest to be built in Canada up to the present, are being made in Montreal for the R.C.A.F.; (3) Interior view of the "Stranraer". In the bow is located the bombing and gunnery station, behind which is the pilot's enclosed compartment with seating for two and dual controls. Aft of this 'cockpit' is accommodation for the navigator, the engineer and the wireless operator. Right: (1) A "Dragon Rapide" fitted with floats, a type of machine made in Toronto; (2) A "Grumman" aeroplane-machines of this type have been manufactured in Canada for foreign governments: (3) A Northrop Delta machine fitted with both floats and wheels; (4) A Blackburn "Shark", two- or threeseat torpedo-bomber or reconnaissance biplane with folding wings-17 of these machines are being assembled in Vancouver for the R.C.A.F.: (5) Inset in Oval: A small but efficient machine of the "Moth" type.

The production of aircraft in Canada has received a great stimulus as a result of the findings of the British Air Mission that visited Canada in August, 1938, to investigate the possibilities of military aircraft manufacture in Canada. As a result of that inquiry, an operating company of leading Canadian industrialists has been set up to organize industrial plants at Toronto and Montreal in which bombers will be manufactured for the British Government.

Courtesy, DeHavilland Aircraft of Canada, Limited; Canadian Vickers, Limited; Canadian Car and Foundry Company Limited; and Department of National Defence.

THE MANUFACTURE OF AIRCRAFT IN CANADA



The institution of air-mail service to remote and otherwise inaccessible areas too numerous to itemize, has been of the greatest importance in developing the natural resources of Canada. For example, mails from Vancouver now reach White Horse within 24 hours and those from Edmonton reach Aklavik on the Arctic ocean within a week, a mere portion of the time required for surface transport. The gold-mining industry, in particular, has been greatly assisted by the efficiency of the postal service rendered by air.

During the winter season Pelee island in lake Erie, remote settlements on the north shore of the gulf of St. Lawrence, Anticosti island, the Magdalen islands, and Telegraph Creek in northern British Columbia, which formerly relied on dog teams or were entirely isolated from civiliza-

tion, are now given regular air-mail service.

During the season of navigation air-mail service between Montreal and Rimouski is operated to connect with the principal transatlantic steamers.



A Type of Modern Aircraft used by the Department of Transport for Testing Radio Range Beams.—Aircraft used on the Trans-Canada Airway are similar but a little larger and somewhat faster.

Courtesu. Civil Aviation Branch. Department of Transport.

While the great majority of Canadian air-mail services are to remote areas, there are several interurban and international services which effect considerable time-saving between important mailing centres in Canada and the United States. These services are in operation between Montreal, Albany, and New York; Winnipeg and Fargo; Vancouver and Seattle; Moncton and Charlottetown. As progress is made with the Trans-Canada Airway, air-mail services are being extended, as indicated on pp. 108-109.

CHAPTER XIII

THE MANUFACTURES OF CANADA

The present century has witnessed the chief forward movement in Canadian manufactures, mainly as the result of two great influences: first, the opening up of the West, which greatly increased the demand for manufactured goods of all kinds and especially construction materials; and secondly, the War, which left a permanent imprint upon the variety



Preparing Canvas Tops for Rubber Soles.

Rubber Footwear Entering Heaters for Vulcanization.

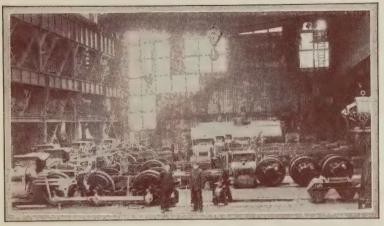


The Manufacture of Rubber Footwear in Canada.

Courtesy, The Goodyear Tire and Rubber Company of
Canada, Limited, New Toronto, Ont.

and efficiency of Canadian plants. By 1920, the gross value of Canadian manufactured products was no less than \$3,693,000,000, the capital invested \$2,915,000,000, and the number of employees 591,753. Hundreds of millions of capital had been attracted from outside (see p. 8) in achieving this striking result. After 1920 the figures declined, but subsequent gains brought them back, for 1929, to even higher levels than 1920, as the table on p. 115 shows. The increasing importance of Canadian manufacturing for the international market is illustrated by the figures for Canadian

exports of manufactured products which increased from less than \$3,000,000 per annum on the average of 1871-75 to \$614,000,000 in the post-war fiscal year ended Mar. 31, 1920. Exports of "fully or chiefly manufactured" products in the fiscal year ended Mar. 31, 1937, amounted in value to \$384,234,219, and exports of "partly manufactured" products to \$296,421,415.



A Canadian Locomotive Plant.—Erecting shop showing a number of locomotives of the smaller type under construction,

Courtesy, Canadian Locomotive Company Limited, Kingston, Ont.

Historical Summary of Statistics of Manufactures, 1870-1936

Year	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
	No.	\$	No.	\$	8	\$	\$
1870 1880 1890 1900 ² 1910 ² 1920 ³ 1930 ³ 1931 ² 1932 ³ 1933 ³ 1934 ³ 1935 ³ 1936 ³	19, 218 22, 157 22, 216 22, 618 23, 083 23, 102 23, 780 24, 209 24, 034	165, 302, 623 353, 213, 000 446, 916, 487 1, 247, 583, 609 2, 914, 518, 693 4, 004, 892, 009 4, 041, 030, 475 3, 705, 701, 893 3, 280, 475, 509 3, 279, 259, 838 3, 249, 348, 864 3, 216, 403, 127	254, 935 369, 595 339, 173 515, 203 591, 753 666, 531 614, 696 528, 640 468, 833 468, 658 519, 812 556, 664	59, 429.002 100, 415.350 113, 249.350 241, 008, 416 711, 080, 430 777, 291, 217 697, 555, 378 587, 566, 990 473, 601, 716 436, 247, 824 503, 851, 055 559, 467, 777	250, 759, 292 266, 527, 852 601, 509, 018 2,083,579,571 2,029,670,813 1,664,787,763 1,221,911,982 954, 381,097 c67, 788, 928 1,229,513,621 1,419,146,217	129,757,475 219,088,594 214,525,517 564,466,621 1,609,168,808 1,755,386,937 1,522,737,125 1,252,017,248 955,960,724 919,671,181 1,087,501,742	469,847,886

¹ For and since 1929 the figures for the net value of production represent the gross value less the cost of materials, fuel and electricity. Prior to this, only the cost of materials is deducted. ² Includes all establishments employing five hands or over. ³ Includes all establishments irrespective of the number of employees but excludes construction and custom and repair work.

Effects of the Depression on the Manufacturing Industries of Canada.—The downward trend in manufacturing operations which began in the autumn of 1929 continued with increasing force to about the middle of 1933. As a result, the output of manufactured products in 1933, valued at \$1,954,075,785, was the lowest annual average reached since the War. This was a decrease of 49.7 p.c. as compared with the peak year of 1929. In 1936 the value of production amounted to \$3,002,403,814, an increase

of $13 \cdot 1$ p.c. over the previous year but still $22 \cdot 7$ p.c. below the 1929 level. The number of persons employed dropped from 666,531 in 1929 to 468,658 in 1933, a decrease of $29 \cdot 7$ p.c. For 1936, however, the number of employees was 594,359, an increase of $6 \cdot 8$ p.c. over the 1935 figures. In spite of this increase, the employees in 1936 still numbered $10 \cdot 8$ p.c. below the 1929



Courtesy, Massey-Harris Company, Limited.

figure. The decline in salary and wage payments exceeded even that of the number of employees, the drop between 1929 and 1933 being \$341,-043,393, or 43·9 p.c. The increase in salary and wage payments in 1936 over 1935 amounted to \$52,603,657. Average earnings per employee, which in 1933 amounted to \$931, represented a decrease of 20·2 p.c. from the average earnings of \$1,166 in 1929. For 1936 average earnings were \$1,030.

Industries, by Provinces and Purpose Groups

Among the manufacturing groups, analysed on a purpose classification basis, and judged by gross value of production, the producers materials group, which includes manufacturers and building materials, ranked first in 1936 with 32·0 p.c. of the total value of manufactured products. The industries manufacturing food products came second with 23·5 p.c. of the total, followed by the industrial equipment group with 14·8 p.c., clothing industries 8·2 p.c., vehicles and vessels 7·8 p.c., drink and tobacco 4·6 p.c.

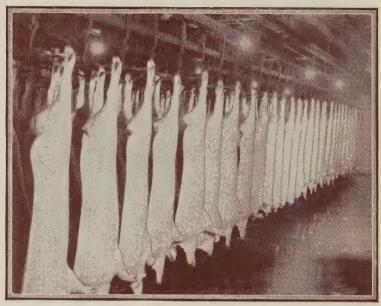
Census of Manufactures, by Provinces and Purpose Groups, 1936

Province or Group	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
	No.	\$	No.	S.	. 8	8	S
PROVINCE P.E.I. N.S. N.B. Que. Ont. Man. Sask. Alta.	233 1,158 784 7,969 9,753 1,011 694 905	2,394,532 87,888,353 81,468,098 1,029,546,039 1,588,484,130 118,515,841 42,055,557	996 15,944 13,710 194,876 288,992 22,507 5,782 11,756	553,008 13,784,556 11,855,051 182,319,454 314,872,843 24,490,299 6,013,378 12,328,471	36,077,900 29,292,851 455,027,759 822,884,081 74,374,078 35,311,152		
B.C. and							
Yukon	1,695	250, 686, 403	39,796	45,854,374	121, 362, 118	87,780,346	216, 136, 078
Totals	24,202	3,271,263,531	594,359	612,071,434	1,624,213,996	1.289,592,672	3,002,403,814
Purpose Group Producers materials. Food Industrial equipment. Clothing Vehicles and vessels Drink and tobacco Books and stationery. House fur- nishings and equipment. Personal util-	768	431,309,246 583,841,518 165,053,967 229,849,466 179,038,633 132,739,983	89, 893 83, 299 89, 460 48, 148 19, 742 38, 143	85, 083, 543 96, 950, 642 71, 629, 227 57, 206, 737 21, 481, 951 49, 586, 742	481, 136, 652 219, 247, 904 134, 693, 738 128, 834, 560 57, 637, 978 37, 049, 911	212,247,150 110,786,602 102,528,003 78,052,853 86,819,977	705, 259, 946 445, 102, 028 247, 386, 145 235, 440, 142 137, 265, 390 125, 513, 235
ities Miscellaneous	625						

¹ Gross value less cost of materials, fuel and electricity.

FOOD INDUSTRIES

This group, although ranking second in gross value of production, is, nevertheless, first in popular interest. To supply the daily needs of the Canadian people for food is a huge task requiring the labour of many people and an organization which is world-wide in its ramifications. Some of the leading industries in this group with their gross value of production in 1936 were as follows: slaughtering and meat packing, \$156,971,640; butter and cheese, \$112,712,327; flour and feed mills, \$114,617,099; bread and other bakery products, \$65,558,437; biscuits and confectionery, \$46,051,641; fruit and vegetable preparations, \$47,337,397; sugar, \$40,405,377; coffee, tea and spices, \$26,412,092; fish curing and packing, \$26,684,801; miscellaneous foods, \$16,245,521; breakfast foods, \$10,766,633; condensed milk, \$8,507,866; etc. A brief review of the more important of these industries follows.



Hog Carcasses Ready for Trimming into 'Wiltshires' at a Canadian Packing Plant.

Courtesy, Canadian Government Motion Picture Bureau.

Slaughtering and Meat Packing.—Slaughtering and meat packing is the leading industry of the food group. In 1936 its output was valued at \$156,971,640; it furnished employment to 11,776 persons who were paid \$13,921,410 in salaries and wages. About \$102,000,000 was paid out by packers for live stock. This industry is, therefore, of great importance to the agricultural economy of the Dominion. The packing plants are concentrated in the larger centres of population and are located in all provinces, with Ontario, Quebec, Manitoba and Alberta of chief importance in the order named. The bulk of the industry is carried on in plants of large capacity. Of the 142 establishments, 35 contributed 91 p.c. of the total output, while 6 of the largest plants had an average production of about \$12,000,000. The same is true of employment. Twenty-nine plants reported 85 p.c. of the total number of persons employed, while the six largest plants averaged over 800 employees each. This industry contributes materially to the foreign trade of Canada. The exports in 1936 totalled \$44,415,026, the principal single item comprising "bacon and hams, shoulders and sides". Imports in 1936 were \$10,299,914 and consisted chiefly of hides and skins, sausage casings, gelatine and meat.

Dairy Products.—Manufacturing statistics of dairy production are given in the chapter on Agriculture at pp. 27-30.

Flour Milling.—The flour-milling industry with an output valued at \$94,320,594 in 1936 is one of the leading industries of the group from the point of view of gross value of production. This industry, which has

existed to meet the domestic needs for more than 300 years, is one of the Dominion's oldest manufactures, but it is only within recent times that its progress has become outstanding. The War and the demand it created gave a great impetus to this trade. The 363 flour mills, many of them of the most modern type and highest efficiency, have a capacity far in excess of Canada's demands. During 1928, productive capacity reached about 121,000 barrels per day. Since then, this industry has been adversely affected by the difficulties that have beset the Canadian grain trade and the decline in the prices of grains. Exports of wheat flour declined from 10,737,266 barrels in 1928 to 4,850,071 barrels in 1936 but in spite of the decrease Canada continues to be one of the leading exporters of wheat flour.



Filling Bags in a Large Canadian Flour Mill.

Courtesy, Ogüvie Flour Müls, Ltd.

Bread and Other Bakery Products.—With the increase in urban population, as well as the improvement in transportation, which increasingly enables rural communities to purchase factory-made bread, the bread industry made rapid strides during the past decade. During this period there was an increase of 30 p.c. in the capital invested and 54 p.c. in the number of employees. This industry had an output valued at \$65,558,437 in 1936, a capital investment of \$46,108,482, employees numbered 19,598, with salaries and wages of \$17,703,572. This industry therefore ranked third in number of employees but only seventh in salaries and wages paid.

Canned Foods.—The development in the production of canned foods in Canada has shown a remarkable expansion since the beginning of the

twentieth century. In 1900 the total value did not exceed \$8,250,000, but in 1930 it had increased to more than \$55,000,000, or six and one-half times as much. In 1933 the value of production dropped to \$33,000,000, and rose again to nearly \$55,000,000 in 1936. The principal commodities used in the canning industry are: fish, fruits and vegetables, milk and meats, while the industry itself forms an adjunct of considerable importance to other industries, notably the tin-can industry, the wooden-box industry, and the paper and printing industries. The development of the canned foods trade has effected great changes in the relation of foods to seasons. Fruits and vegetables of many kinds, retaining much of their original freshness and flavour, are to be had at all times of the year. Producers in the country are provided with an enormously extended market, and consumers in both city and country with cheap and wholesome food in great variety. The consumer also enjoys protection by frequent inspections (under the Meat and Canned Foods Act, 1907, and subsequent amendments) by the Health of Animals Branch of the Dominion Department of Agriculture.

Quantity and Value of Principal Foods Canned in Canada, 1936

Product	Quantity	Value
Fish case Fruits " Vegetables " Meats lb. Soups case Concentrated milk products cwt. Other foods Total	2, 566, 161 2, 052, 077 7, 410, 145 5, 036, 186 2, 583, 324 1, 098, 143	\$ 15,564,501 5,318,731 13,963,401 1,101,014 6,256,444 7,434,896 5,064,541 54,703,528

Fish Canning.—The principal kinds of fish used were, in order of value in 1936: salmon, lobsters, sardines, herring, clams, pilchards, hake and cusk, and haddock.

The salmon-canning industry is practically confined to the province of British Columbia, and dates as far back as 1876 when the initial pack was 9,847 cases, drawn wholly from the Fraser River area. By 1926 the pack had increased to 2,065,190 cases, constituting the second highest record pack for the industry, while in 1930 the pack had increased to 2,223,469 cases, the high record to date. In 1936 the pack amounted to 1,882,275 cases valued at \$11,139,391. There is a small production of canned salmon on the Atlantic coast, amounting to 1,249 cases, valued at \$10,755 in 1936.

Next to the salmon-canning industry of the Pacific coast comes the lobster-canning industry of Nova Scotia, New Brunswick, Prince Edward Island, and Quebec. The lobster is found in Canada in Atlantic coast waters only. The industry dates from 1870 when Nova Scotia produced 30,000 cans and New Brunswick 20,000 cans. In the following year a factory was started in Prince Edward Island with an initial pack of 6,711 cans. The growth of the industry in over 65 years is indicated by the output of the 304 canneries operating in Canada in 1936 which amounted to 88,102 cases of 48 pounds, valued at \$2,229,967. Large quantities are exported annually to the United Kingdom, the United States, and France.

Sardine canning is carried on in the province of New Brunswick only. The name of sardine as applied to the Canadian fish is not the true one as the fish used in the canneries of New Brunswick is the young of the herring. The first mention of a sardine industry in Canada, so far as is known, dates back to some time in the late 'sixties. Although there are but three canneries operating, they are of large capacity, and the total pack in 1936 amounted to 393,854 cases valued at \$1,381,228. The imports in 1936 amounted to \$368,628 and came principally from Norway. Exports valued at \$471,819 were reported in 1936, principally to Empire countries.

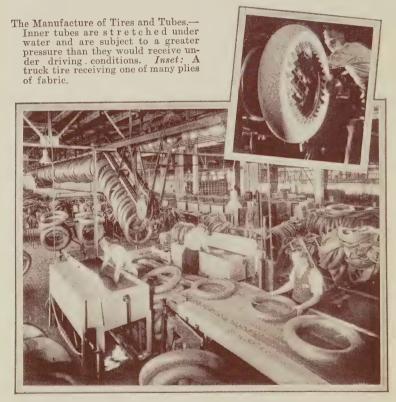
Canned Fruits and Vegetables.—The fruit and vegetable preparations industry, which includes canned fruits, canned vegetables, pickles, vinegar, jams, etc., comprises another large division of this group. In 1936 this industry reported an output valued at \$47,337,397, a capital investment of \$41,572,514 and an employment of 9,258 persons, who received \$6,066,761 in salaries and wages. The industry has made rapid strides in the past few years. During the period 1923-36 the volume of fruit and vegetable preparations produced increased 200 p.c. This growth is remarkable indeed, as it represents a corresponding increase in the domestic demand for these products, the foreign trade being relatively small as compared with the domestic production. Imports in 1936 were valued at \$3,444,665 and exports at \$5,406,824.

Biscuits and Confectionery.—The value of biscuits and confectionery produced in Canada totalled \$46,051,641 in 1936. Of this amount \$13,201,658 was represented by biscuits, \$21,767,800 by chocolate and sugar confectionery, and the balance of \$11,082,183 by cocoa and chocolate, nuts, and other products. Large quantities of biscuits and confectionery are consumed annually in Canada. In 1936 the per capita consumption of biscuits amounted to 8.99 pounds and confectionery 11.63 pounds. The biscuit, confectionery, cocoa and chocolate industry is thus of considerable importance in Canada. In 1936 there were 206 establishments reporting. These plants had a capital investment of \$39,802,756; they furnished employment to 11,201 persons who were paid \$10,101,275 in salaries and wages. The industry is concentrated mainly in Ontario; the 85 plants located there had 60 p.c. of the capital, 51 p.c. of the total employees in the industry, and produced 57 p.c. of the entire output.

Sugar.—The production of sugar requires the construction of large factories entailing huge capital investments. In 1936 there were 10 plants in operation with an average investment in fixed and current assets of over \$3,000,000 each. The location of these plants was as follows: Nova Scotia 1; New Brunswick, 1; Quebec, 2; Ontario, 3; Alberta, 2; and British Columbia, 1. The selling value at the factory of the products made by the industry totalled \$40,405,377. To produce the large quantity of sugar required by Canadians, it took the labour of 2,559 persons who received \$3,413,698 in salaries and wages. The quantity of sugar produced reached the huge total of 1,093,291,045 pounds, enough sugar to allow more than 99 pounds to every person in Canada. Both cane and beet sugar are produced. Beet sugar is produced in Ontario and Alberta from locally grown beets and constituted 14·3 p.c. of the total output in 1936. The

production of beet sugar has risen considerably during the past decade, the output having increased from 70,388,105 pounds in 1926 to 156,066,242 pounds in 1936.

The sugar-refining industry is, therefore, of considerable importance in the industrial life of Canada. The demand created by the War gave it a great impetus. All things considered, 1919 was a record year. The number of persons employed (3,491), the value added by manufacture (\$16,321,882), and the exports (\$22,953,135), were the highest recorded, while the volume of sugar manufactured was only 10 p.c. lower than that of the peak year 1925 when 11,714,967 cwt. was produced. Since 1925, however, exports of sugar have declined with the result that production and employment slackened considerably. In 1936 exports totalled only 37,533 cwt.



Courtesy, Goodyear Tire and Rubber Company of Canada Limited, New Toronto, Ont.

Leading Individual Industries

The industries based on mineral resources have taken their place among the leading manufactures of Canada along with the industries based upon forest, agricultural, and live-stock resources.

The pulp and paper industry, although of comparatively recent development, had, by 1923, displaced flour milling as Canada's most

important manufacturing industry and, in spite of recent vicissitudes, held that position up to 1935 when it was displaced by the non-ferrous metal smelting and refining industry. In employment, and salaries and wages paid, however, pulp and paper is still the leading industry.

The incidence of the depression resulted in a re-arrangement in the rank of many industries which has already proved temporary in some cases. The suspension of capital expenditures, a serious factor in the depression, greatly reduced the output of such important industries as sawmills, electrical equipment, automobiles, railway rolling-stock, primary iron and steel, machinery, etc. On the other hand, the demand for goods for immediate consumption was more stable, including such industries as petroleum products, bakeries, cotton varn and cloth, printing and publishing, clothing, tobacco, beverages, etc. However, as previously stated, some return to the pre-depression order of importance is in evidence. Comparing the rankings for 1933 with those for 1936, it may be noted that automobiles came up from eleventh to sixth place, sawmills from fourteenth to eighth, electrical equipment from sixteenth to ninth; while cotton yarn and cloth and bread and other bakery products, which appeared in eighth and seventh places, respectively, in 1933, dropped back to tenth and eleventh.

Principal Statistics of Fifteen Leading Industries, 1936

Industry	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products ¹
	No.	\$	No.	\$	\$	8
Non-ferrous metal smelting and refining	15 93		10,015 30,054			
ing	142 1,118 2,573	61,867,287 60,201,575	11,776 5,685 15,545	5,542,945 14,772,250	90,614,236 80,983,372	114,617,099 112,712,327
Automobiles	$\begin{array}{c} 16 \\ 63 \\ 3,638 \end{array}$	61,885,926	12,933 5,019 28,786	7,309,955	66, 555, 885	85, 802, 363
plies	186 35	71, 564, 646	17,910	14, 218, 231	37,042,911	65, 635, 365
Rubber goods, including	3,101	46, 108, 482	19,598	17,703,572	32, 124, 708	65,558,437
footwear Printing and publishing Railway rolling-stock Clothing, factory, women's.	50 789 37 583	53, 273, 296 83, 258, 169	11,881 17,377 18,633 18,924	11,954,016 24,035,719 22,161,277 15,255,725	11,967,553 30,486,569	58, 275, 911 56, 969, 453
Totals, Fifteen Leading Industries	12,439	1,477,473,628	241,173	260,307,964	904,803,011	1,507,580,073
Grand Totals, All Industries	24,202	3,271,263,531	594,359	612,071,434	1,624,213,996	3,002,403,814
Percentages of Fifteen Leading Industries to All Industries	51 · 4	45 · 2	40.6	42.5	55 · 7	50.2

¹ Net value is obtained by deducting cost of materials, fuel, and electricity used in manufacturing from the gross value.

Manufactures in Leading Cities

Montreal proper, with an output valued at \$427,270,916 in 1936, exceeded Toronto proper, with \$417,724,888. After these two cities came Hamilton with \$130,578,232, Windsor \$104,556,881, Vancouver \$87,581,068, and Winnipeg with \$73,316,055. Fourteen other places had manufactures with a gross value of production of over \$20,000,000 in 1936.

Cities of Canada with a Manufacturing Production of Over Twenty Million Dollars in 1936

City	Estab- lish- ments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products ¹
	No.	\$	No.	\$	\$	\$
Montreal Toronto Hamilton Windsor. Vancouver Winnipeg Montreal East Oshawa London Kitchener Quebec. Calgary Peterborough Ottawa. Three Rivers Brantford. Edmonton Sarnia. St. Boniface New Toronto	2, 762 466 214 807 594 10 455 237 158 286 161 77 200 168 109	46,761,131 27,497,248 21,301,407	89, 056 28, 625 15, 613 16, 397 16, 673 1, 725 5, 914 8, 978 8, 978 8, 905 4, 137 5, 046 6, 540 6, 540 4, 018 2, 852 1, 613	102, 217, 057 32, 288, 022 21, 180, 684 18, 479, 302 18, 060, 555 2, 240, 594 7, 422, 043 9, 683, 251 8, 466, 965 7, 711, 422 4, 720, 763 4, 790, 757 7, 782, 206 5, 530, 911 6, 219, 900 4, 429, 784 3, 592, 036	209, 320, 347 61, 676, 060 9, 871, 643 47, 394, 136 40, 822, 75 39, 929, 718 28, 909, 333 18, 494, 187 12, 944, 100 17, 596, 497 14, 949, 058 10, 805, 581 10, 140, 744 11, 478, 219 15, 408, 120 18, 349, 179 16, 936, 517	417, 724, 888 130, 578, 232 104, 556, 881 87, 581, 068 87, 581, 068 43, 304, 208 39, 371, 555 27, 481, 060 27, 087, 121 26, 877, 221 26, 877, 221 26, 877, 221 25, 043, 818 24, 911, 465 23, 532, 055 23, 262, 664 23, 116, 589 22, 404, 098

 $^{^{\}rm 1}$ Net value is obtained by deducting cost of materials, fuel and electricity used in manufacturing from the gross value.

Conditions During the Years 1929-38

Perhaps the best all-round barometer of conditions is afforded by the indexes of employment maintained from month to month in the Dominion Bureau of Statistics, and based on returns received from establishments having 15 hands or over. These include the great majority of employees.

The year 1929 witnessed the establishment of an unusually high level of employment in manufacturing, as in other lines of business. From the latter part of that year, however, the trend was downward, the recession continuing almost uninterruptedly until the opening of 1933, when the index reached the lowest point on record, standing at 74·4 at Jan. 1 of that year. The recovery in manufacturing which then set in has continued, with few interruptions, and a high point of 121·7 was recorded by the index at Oct. 1, 1937; this was practically the same as the previous maximum of 121·6 indicated at Aug. 1, 1929. The index for eleven months averaged 111·1 in 1938, as compared with 114·3 in the same months of 1937.

Indexes of Employment in Manufactures

(1926 = 100)

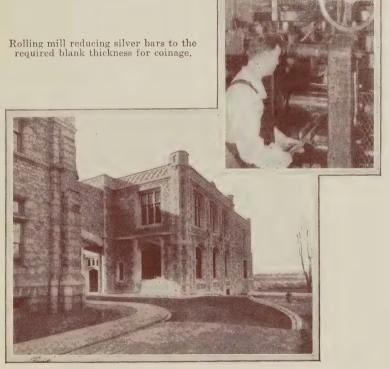
Month	1933	1934	1935	1936	1937	1938	Month	1933	1934	1935	1936	1937	1938
Jan. 1 Feb. 1 Mar. 1 April 1 May 1 June 1	74·4 75·0 75·8 76·0 76·8 80·0	84·2 86·5 88·1 90·2	$92.7 \\ 93.9 \\ 95.6$		105·3 107·6 110·8 113·8	110·3 110·5 110·8 110·6	Aug. 1 Sept. 1 Oct. 1 Nov. 1	83·0 85·2 86·8 86·7 86·5 84·4	$94 \cdot 2 \\ 94 \cdot 3 \\ 94 \cdot 4$	99·8 100·8 103·3 103·5	104·9 105·9 109·0 107·7	118·1 121·2 121·7 119·0	$110 \cdot 0$ $113 \cdot 8$ $112 \cdot 5$

CHAPTER XIV

PUBLIC FINANCE

Dominion Finance

Among the powers conferred on the Dominion Government by the British North America Act were: the right to deal with the public debt and property; the right to raise money by any system of taxation (the provinces were limited to direct taxation); and the borrowing of money on the credit of the Dominion. The Department of Finance was established in 1869 to have "supervision, control and direction of all matters relating to financial affairs, public accounts and revenue and expenditure of the Dominion".



The New Refinery, Royal Canadian Mint, Ottawa.

Courtesy, Canadian Government Motion Picture Bureau.

At Confederation the revenues, notably the customs and excise duties which had previously accrued to the treasuries of the provinces, were transferred to the Dominion and combined into a consolidated revenue fund against which certain specific charges such as cost of collection, interest on public debt, and salary of the Governor General were made. The remainder of the fund was appropriated by Parliament. The public works,

cash assets, and other property of the provinces, except lands, mines, minerals, and royalties, also became Dominion property. In its turn the Dominion became responsible for the pre-existing debts of the provinces.

Since the main source of the revenues of the provinces was now taken over, the Dominion undertook to pay annual subsidies to the provinces for the support of their governments and legislatures. With the growth of the Dominion, the principle of subsidy payments has been extended to the western provinces and from time to time adjustments have been made in the moneys so paid.

The growth of the Dominion revenue, the Dominion expenditure, and the net public debt is briefly outlined in the following table:—

Dominion Finances, 1868-1938

Note.—Figures of revenue receipts and total expenditure from 1930 to 1935 have been revised to conform with the set-up of the Public Accounts adopted in the fiscal year 1935–36. (See p. 127.)

Fiscal Year	Revenue Receipts	Per Capita Receipts ¹	Total Expenditure	Per Capita Expendi- ture ¹	Net Debt at End of Year	Net Debt per Capita
1868	\$ 13, 687, 928 19, 375, 037 29, 635, 298 38, 579, 311 52, 516, 333 117, 884, 328 436, 292, 184 382, 893, 009 400, 452, 480, 429, 642, 577 460, 151, 481 453, 007, 129 357, 720, 435 334, 508, 081 311, 735, 286 324, 660, 590 361, 973, 763 372, 595, 996 454, 153, 747 516, 692, 749	\$ 3.90 5.90 5.90 6.85 7.98 16.36 49.65 40.51 41.56 43.69 45.88 44.38 34.48 31.84 29.19 30.00 33.79 40.84 46.10	\$ 14, 071, 689 19, 293, 478 33, 796, 643 40, 793, 208 57, 982, 866 122, 861, 250 528, 302, 5132 355, 186, 4232 358, 555, 7512 378, 658, 4402 388, 805, 9532 405, 266, 3832 441, 568, 4132 448, 742, 3162 458, 157, 9052 478, 106, 5812 532, 369, 9402 458, 157, 9052 532, 305, 9402 532, 369, 9402 532, 369, 9402 532, 369, 9402 532, 369, 9402 532, 369, 9402 532, 369, 9402 532, 532, 548, 106, 5812 532, 532, 548, 408, 1172	37·58 37·21 38·50 38·77 39·70 42·56 42·71 49·84 42·33 43·72 48·29 47·84	\$ 75, 757, 135 77, 706, 518 155, 395, 780 237, 809, 031 268, 480, 004 340, 042, 052 2, 340, 878, 984 2, 389, 731, 099 2, 347, 834, 370 2, 296, 850, 233 2, 225, 504, 705 2, 177, 763, 959 2, 177, 197, 197, 197, 197, 197, 197, 197	\$ 21.58 21.68 21.93 49.21 49.99 47.18 266.37 252.85 233.54 221.91 213.34 226.14 243.09 252.22 260.28 272.59 277.33 276.71

¹ Per capita figures for census years are based upon census populations and for intervening years on official estimates. ² Includes advances to railways and transfers from active to nonactive assets.

At the time of the formation of the Dominion, the revenue collections were comparatively small but obligations shouldered by the central government provided for completion of the Intercolonial railway, and, with the entry of British Columbia, for the construction of the Canadian Pacific railway: early in the present century the National Transcontinental was undertaken. Indeed, the single item of railways and canals accounted for almost the entire increase in the net direct debt of from \$76,000,000 in 1868 to \$336,000,000 in 1914. To a very great extent, therefore, the national debt down to the Great War represented expenditures for productive purposes and tangible assets were acquired by the Dominion therefor. Moreover, this debt was largely held outside Canada. The next decade witnessed the tremendous increase in the direct debt from \$336,000,000 to a maximum of \$2,453,777,000 in 1923—an increase of over two billions of dollars not represented, in the main, by corresponding assets, and upon which interest charges were relatively high. One redeeming feature was that the major portion of this debt was held within the country, for the abnormal prosperity induced by the War provided Canadians with the funds to invest in Government issues and the added desire of the Government to tap the rapidly accumulating resources of the masses was instrumental in instructing the man-in-the-street how to invest his money in bonds. Following 1923 there was a steady fall in the net direct debt to \$2,177,764,000 in 1930, but the depression, with accompanying railway deficits and large necessary expenditures for unemployment relief, has established a new high level of indebtedness of \$3,101,668,000, as at Mar. 31, 1938, or an equivalent of \$276.71 net debt per capita.

Fiscal Year 1937-38.—The Minister of Finance, the Hon. Chas. A. Dunning, in his Budget Speech of June 16, 1938, outlined the financial position of Canada and estimated the 1938-39 income and expenditure of the Government. It was estimated that the over-all deficit for 1938-39 should not exceed \$23,000,000. The most important tax change was exemption from the sales tax of the major products used in house construction. Other changes of a minor nature were made in the exemptions and rates of the gift tax; exemption of corporation income tax in respect of dividends received from wholly-owned non-resident subsidiary companies if at least 75 p.c. of the combined capital of the parent and subsidiary companies is employed abroad and if the country in which the subsidiary is located grants a like exemption to parent companies in respect of subsidiaries in Canada; exemption from sales tax of feed for fur-bearing animals, harness, and materials for the repair of fishermen's boats; and removal of the special excise tax on tires and tubes as original equipment for automotive vehicles. There were no amendments to the Customs Tariff.

The Public Accounts.—In the Public Accounts receipts on ordinary account are classified under two headings: (1) receipts from taxation; and (2) non-tax revenue resulting from public services maintained by the Special receipts, which are usually of a non-recurring character, are included in a third category. Expenditures are now being classified under four headings: (1) ordinary expenditures, which include the ordinary operating costs of government, pensions, subsidies to provinces, etc. (in the fiscal years ended Mar. 31, 1936, 1937, and 1938, certain expenditures previously included in special expenditures were reclassified as ordinary expenditures, and appropriate adjustments for comparative purposes have been made for 1935 in the tables on p. 128; (2) capital expenditures on account of railways, canals and public works; (3) special expenditures consisting chiefly of expenditures designed to relieve unemployment and agricultural distress, etc.; and (4) Government-owned enterprises, representing losses of, or non-active advances to, Government-owned enterprises which are operated as separate corporations. Previous to the fiscal year 1935-36, this latter type of expenditure was shown under special expenditure or loans and advances (non-active).

The public revenues increased by \$62,539,000 in 1937-38 as compared with the previous year, substantial increases being registered in the receipts from customs duties, excise duties, income tax, and sales tax.

Total receipts from taxation for the year 1937-38 amounted to \$448,651,000 as compared with \$386,551,000 in the previous year, \$317,312,000 in 1935-36 and \$304,444,000 in 1934-35. Summary figures of receipts and expenditures follow;—

Summary of Total Receipts, fiscal years 1935-38

Item	1934–35	1935-36	1936–37	1937–38
	\$'000	\$'000	\$'000	\$'000
Customs Import Duties Excise Duties	76,562 43,190	74,005 44,410	83,771 45,957	93,456 $52,037$
War Tax Revenue— Banks Insurance companies	1,368 750	1,281 761	1,210 775	1,107 867 120,365
Income tax Sales tax Tax on cheques, excise taxes, etc Tax on gold	66, 808 72, 447 39, 745 3, 574	82,710 77,552 35,181 1,412	$ \begin{array}{r} 102,365 \\ 112,832 \\ 39,641 \\ - \end{array} $	120, 363 138, 055 42, 764
Totals, Receipts from Taxation Non-tax Revenues	504,444 54,031	317,312 54,910	386,551 58,478	448, 651 61, 647
Total Consolidated Fund Receipts	358, 475 3, 499	372,222 374	445,029 9,125	510, 298 6, 395
Grand Totals	361,974	372,596	454,154	516,693

Summary of Total Expenditures, fiscal years 1935-38

Item	1934-35	1935–36	1936–37	1937–38
	\$'000	\$'000	\$'000	\$'000
Ordinary Expenditure Capital Expenditure Special Expenditure ¹ Government-owned Enterprises ² Other Charges	359,701 7,107 60,660 50,137 502	$\begin{array}{r} 372,539 \\ 6,544 \\ 102,047 \\ 50,941 \\ 515 \end{array}$	387, 112 3, 492 78, 004 44, 218 19, 179	414,891 4,430 68,535 44,853 1,719
Grand Totals	478,107	532,586	532,005	534,408

¹ Includes \$51,987,000 for unemployment relief in 1934–35; \$49,836,000 in 1935–36; \$69,253,000 grants-in-aid to provinces and relief projects and \$8,751,000 special drought area relief in 1936–37; and \$43,948,000 grants-in-aid to provinces and relief projects and \$24,586,000 special drought area relief in 1957–38. ² Includes net income deficit of the Canadian National Railways (including Eastern lines) incurred in the calendar years 1934 to 1937 as follows: \$48,408,000, \$47,421,000, \$43,-303,000, and \$42,346,000, taken into the accounts of the Dominion in the fiscal year after the close of the calendar year.

It will be seen from the above tables that, for the fiscal year ended Mar. 31, 1938, total receipts of \$516,693,000 compared with total expenditures of \$534,408,000, including net income deficit of the Canadian National Railways amounting to \$42,346,000, \$43,948,000 for grants and relief, and \$24,586,000 special drought area relief. Thus the total deficit for that year was \$17,715,000. This is substantially less than the deficit of \$77,-851,000 shown in the preceding year and considerably less than the deficits for 1935-36 and 1934-35 which amounted to \$159,990,000 and \$116,132,000, respectively,

Provincial and Municipal Finance

Provincial Finance

Provincial Governments in Canada are in the position, under Section 118 of the British North America Act, 1867 (30 and 31 Vict., c. 3), and the British North America Act, 1907 (7 Edw. VII, c. 11), of having a considerable assured income in subsidies from the Dominion Treasury. In addition, through the ownership of their lands, minerals and other

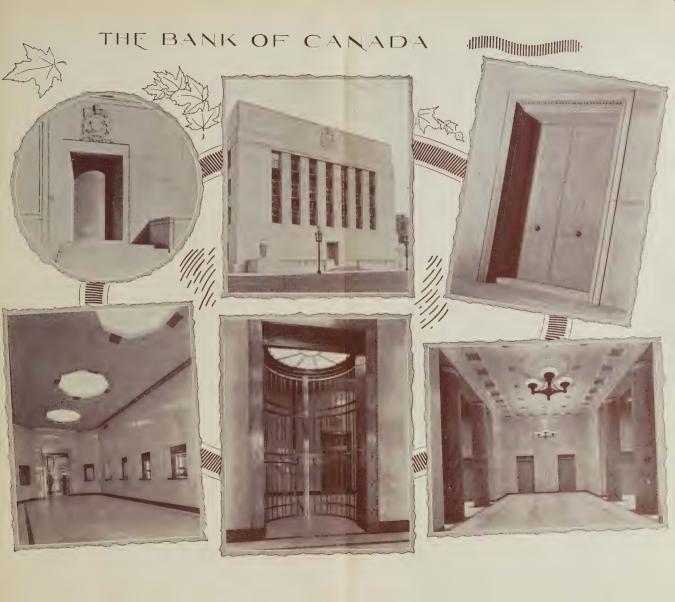




The Bank of Canada

A central bank has very little business directly with the public. Its business connections are, for the most part, with commercial bankers and others, relatively few in number, having business with the executives. For this reason it is not necessary to provide a large space for a Banking Room to be used only by employees of the chartered banks for deposits, withdrawals, deliveries of securities, etc., or by those members of the public who may wish to register Government bonds or redeem them on maturity.

The two largest divisions are those of 'Currency', including the vaults, and 'Public Debt'. These divisions handle bullion, coin, bank notes, bonds and other valuables running into very large figures in the aggregate. Employees of these divisions are checked in and out and segregated from those of other divisions. The Currency Division operates from the ground floor down to the basement and sub-basement where the vaults are built. The Public Debt Division occupies the second floor. (Continued over leaf)



Reading from left to right the layout shows:-

Upper Row: (1) The Sparks Street Entrance to the Bank—the entire south elevation is so designed that it may be moved 40 feet farther south when the need for expansion arises. (2) The Wellington Street Façade—at each end of the terrace, which is 15 feet high, a huge urn, or amphora, symbolizes storage of wealth, the spandrels between the windows are of polished Verde antique marble, the lower ones carrying green bronze sculptured figures. (3) The Bronze Doors of the Wellington Street Entrance—the modeller has based his designs on Green coins of the best period.

Lower Row: (1) The Banking Room showing the wickets through which cash and securities are delivered or withdrawn. (2) The Staff Entrance viewed from the Banking Room—provision is made for a sliding grille to be brought into place in the track seen behind the curved grille; thus the route is securely protected when gold is being conveyed to the vaults. (3) The Executive Lobby.

Courtesy, Bank of Canada.

natural resources, the provinces are in a position to raise considerable revenues through land sales, sales of timber, mining royalties, leases of water powers, etc. Further, under Section 92 of the British North America Act, provincial legislatures are given authority to impose direct taxation within the province for provincial purposes and to borrow money on the sole credit of the province.

Among the chief methods of taxation to be employed has been the taxation of corporations and estates. Prominent among the objects of increased expenditure are education, public buildings, public works (especially roads and highways), labour protection, charities, hospitals, and places of correction.

The Growth of Provincial Taxation.—Whereas in earlier years the Dominion subsidies, together with the revenues arising out of the natural resources of the provinces and from fees for specific services rendered to the citizens, nearly sufficed to cover the whole expense of government and rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, the great increase in the functions of government since the commencement of the present century has put an end to this

Aggregate Provincial Revenues and Expenditures

Fiscal Year	Ordinary Revenue	Ordinary Expenditure	Direct Liabilities ¹
	\$	\$	\$
873 881 881 901 901 911 922 926 929 930 933 934 935	6,960,922 7,858,698 10,693,815 14,074,991 40,706,948 102,030,458 146,450,904 183,598,024 188,154,910 184,868,471 175,867,349 160,567,695 ⁴ 232,616,182	6, 868, 884 8, 119, 701 11, 628, 353 14, 146, 059 38, 144, 511 102, 569, 515 144, 183, 178 177, 542, 192 184, 804, 203 200, 527, 219 229, 483, 726 181, 175, 687 ⁴ 248, 141, 808	2 2 2 138,662,44 565,470,55 893,499,81 1,034,071,26 1,140,953,69 1,440,317,86 1,558,601,63 1,717,370,43 1,839,322,14
Prince Edward Island. Nova Scotia Nova Strunswick Quebec. Ontario Manitoba. Saskatchewan Alberta. British Columbia.	243,113,555 1,821,268 14,099,048 7,869,483 46,280,019 94,877,218 15,215,176 16,526,393 20,743,046 27,881,027	228, 152, 839 1, 942, 041 14, 036, 659 7, 840, 392 42, 311, 454 85, 563, 280 14, 934, 794 17, 654, 559 20, 665, 193 25, 413, 590	1,862,303,95 8,199,66 101,272,61: 88,639,68 268,860,16 665,373,36 138,719,52 210,905,51: 174,362,26 205,971,16:

¹ Sinking funds are not deducted. ² Not available. ³ In addition, there were trust account liabilities amounting to \$41,946,386 in 1933 and \$47,920,235 in 1934. There were corresponding offsetting trust account assets amounting to \$37,684,406 in 1933 and \$47,920,235 in 1934. ⁴ Nova Scotia figures are for fourteen months and Ontario for five months. ⁵ Figures of ordinary revenue and expenditure for 1937 are subject to revision.

state of affairs. Ordinary provincial taxation (covering succession duties and taxation of incomes, corporations, lands, mines or minerals, amusements, etc.) amounted to \$12,575,159 in 1916, to \$42,593,417 in 1929, \$51,621,242 in 1930, \$48,738,796 in 1931, \$44,313,514 in 1932, \$48,383,044 in 1933, \$46,741,293 in 1934, \$36,947,706 in 1935 (in Nova Scotia statistics are for fourteen months and in Ontario for five months), and \$63,516,087

in 1936. In addition to this ordinary taxation, provincial revenues have been augmented by the control of the liquor traffic, the issuance of licences and permits for motor vehicles, and by the imposition of taxes on gasoline sales. In recent years the revenues collected from these sources alone have far exceeded those from ordinary taxation, the figures being: Liquor traffic control profits, 1929, \$27,599,687; 1930, \$33,248,056; 1931, \$32,128,693; 1932, \$24,832,427; 1933, \$16,160,980; 1934, \$12,814,120; 1935, \$10,818,228; 1936, \$19,338,366. Motor vehicles (including licences and permits), 1929, \$21,735,827; 1930, \$20,321,307; 1931, \$19,952,575; 1932, \$20,164,291; 1933, \$20,050,667; 1934, \$20,840,513; 1935, \$19,754,336; 1936, \$22,854,410. Gasoline tax, 1929, \$17,237,017; 1930, \$20,956,590; 1931, \$23,859,067; 1932, \$24,987,273; 1933, \$25,931,480; 1934, \$26,812,275; 1935, \$20,474,977; 1936, \$32,310,353.

The increasing use of automobiles for both commercial purposes and pleasure is clearly demonstrated by the revenue figures for motor vehicles and gasoline taxes shown above. The fact that the gasoline tax revenue increased in 1931 whereas the figures for motor vehicle licences and permits showed a decline from the previous year, is not altogether attributable to a greater average mileage run per car but largely to an increased use of the gasoline tax as a source of provincial revenue. The rate of gasoline tax has been increased repeatedly in all provinces since its inception and many of these increases were made in the period of the depression from 1930 to 1934.

Bonded Indebtedness of the Provinces.—The bonded indebtedness of the provinces amounts to about 77.5 p.c. of their total direct liabilities. In recent years, the aggregate bonded indebtedness of the provinces has increased steadily. The total for the nine provinces was \$704,225,134 in 1925, \$708,677,426 in 1926, \$742,388,684 in 1927, \$769,260,373 in 1928, \$817,940,202 in 1929, \$919,142,905 in 1930, \$1,016,647,165 in 1931, \$1,148,-323,084 in 1932, \$1,224,372,822 in 1933, \$1,329,684,651 in 1934, \$1,373,321,604 in 1935, \$1,426,293,679 in 1936, and \$1,442,544,809 in 1937. This bonded indebtedness for 1937 was divided by provinces as follows: P.E.I., \$6,104,000; N.S., \$95,219,247; N.B., \$76,613,920; Que., \$195,170,199; Ont., \$576,886,147; Man., \$94,962,481; Sask., \$124,043,319; Alta., \$127,999,260; B.C., \$145,546,236. The development of the principle of public ownership is largely responsible for the high bonded indebtedness in certain provinces, particularly in Ontario where the hydro-electric system and the provincially-owned Temiskaming and Northern Ontario Railway largely account for the bonded indebtedness of the province. The larger of these public utilities, the hydro-electric system, is, however, meeting from its revenues the interest on the indebtedness incurred in its construction.

Municipal Finance

Under the provisions of the British North America Act, the municipalities are the creations of the Provincial Governments. Their organization and their powers vary in different provinces, but almost everywhere they have very considerable powers of local self-government. If we include the local government districts of Saskatchewan and Alberta, there are



Water Purification Plant, Ottawa, Ontario.

Courtesy, City Waterworks, Ottawa.

4.310 municipal governments in Canada. These 4.310 municipal governments have together probably 20,000 members described as mayors, reeves, controllers, councillors, etc., the experience training them for the wider duties of public life in the Dominion and in the provinces. Certain of the larger municipalities, indeed, are larger spenders of public money than are some of the provinces.

The cost of municipal government, like the cost of provincial and Dominion government, has greatly increased since the prewar period, principally

due to the increased services demanded from municipal bodies. Among such public services which play a large part in municipal expenditures may be mentioned education, roads and highways, sanitation, fire and police protection, and charities and social relief. The cost of these services is almost entirely met by municipal governments through local taxation. In the province of Prince Edward Island there is no municipal system outside of the city of Charlottetown and seven small incorporated towns. The following table shows the tax imposition and the tax receipts of municipalities in each of the other provinces for the earliest available year as compared with similar returns for the year 1936.

Municipal Tax Imposition and Receipts by Provinces

		Taxes Impose	d	Tax Receipts			
Province	Earliest A	vailable Year	1936	Earliest A	1936		
	Year	Amount	1950	Year	Amount	1950	
		\$	\$		\$	\$	
Nova Scotia New Brunswick Quebec	1 1 1	1 1 1	5,315,283	1918 1 1915	3,462,587 $33,288,115$	7,403,541 5,033,039 65,445,212 ²	
Ontario	1913 1913 1913 1914	34,231,214 7,730,122 12,399,657	117,887,933 18,054,688 20,082,158	1924 1932 1921 1924	94,526,271 17,290,889 22,278,621 10,706,183	121,825,930 18,342,869 16,672,335 11,325,644	
Alberta British Columbia	1914	9,791,846 11,688,125	13,940,991 17,104,740	1917	9,382,099	17,070,680	

¹ Statistics not available.

² Revenue.

Municipal System of Taxation.—Throughout the Dominion, the chief basis of municipal tax revenue is the real estate within the limits of the municipalities; though in certain provinces personal property, income, and business carried on are also taxed. General taxes are normally assessed at the rate of so many mills on the dollar of the assessed valuations, although the basis of assessment varies widely in different provinces and in municipalities within the same province. In some provinces Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

The period of depression was responsible for a very considerable delinquency in tax payments, while the burden of unemployment relief since 1930, which has been carried by the municipalities with help from the Provincial and Dominion Governments, has been increasingly heavy. The resulting heavy taxation upon real estate has tended to curtail new building for commercial and industrial as well as residential purposes and is responsible in no small measure for the slow recovery of the construction industry (p. 77) in spite of the encouragement of residential construction by the National Housing Act (p. 73).

Bonded Indebtedness of Municipalities.—Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather too freely during the years between 1917 and 1930. The following table shows the total municipal bonded debt outstanding in each province for the years 1919 and 1936. It also shows the amount of sinking funds held by municipal governments in each province in 1936 offsetting the bonded debt of that year.

Municipal Bonded Debt for 1919 and 1936 and Sinking Funds for 1936, by Provinces

Province	Total Gro Indebto Munici	Sinking Funds Offsetting Gross Bonded Indebtedness	
	1919	1936	1936
	\$	\$	\$
Prince Edward Island Nova Scotia. New Brunswick Quebec. Ontario. Manitoba. Saskatchewan. Alberta. British Columbia.	970, 100 17,863,881 11,188,467 199,705,568 243,226,77 55,562,788 39,585,388 66,870,464 94,741,615	2,510,675 34,211,220 26,796,910 607,598,151 431,546,483 95,883,699 55,582,491 67,641,130 125,838,619	549,051 12,665,298 8,100,938 89,412,280 58,294,088 43,750,179 17,833,448 25,172,733 32,864,156
Totals	729,715,148	1,447,609,378	288,642,171

CHAPTER XV

CURRENCY—BANKING—INSURANCE—LOAN AND TRUST COMPANIES—MISCELLANEOUS

Currency

Early trade in Canada was carried on largely by barter. Beads, blankets, beaver and other furs, tobacco, and wheat have been, at various



Automatic Coin Weighing Balance.—This balance weighs to the 100th part of a grain. The average coin rejected on these machines is one-half of one per cent over- or under-weight.

times, used for currency. Further, under the French régime playing cards, stamped with a value and redeemable yearly on the receipt of bills of exchange on Paris, came into circulation. In the early years of the British period, the Spanish dollar and the English shilling were the chief mediums of exchange, together with such paper money as the army bills issued by the Government for supplies during the War of 1812. In 1853 a measure was passed providing for the adoption of decimal currency with a dollar equivalent to the United States dollar, and from Jan. 1, 1858, the accounts of the Province of Canada were kept in terms of dollars. The use of the dollar as a monetary unit was extended throughout the new Dominion by the Uniform Currency Act of 1871.

The Canadian gold dollar weighs 25.8 grains, nine-tenths fine gold, and thus contains 23.22 grains of gold. Only very limited issues of gold coin have ever been made. British and United States gold coin are legal tender in Canada. Subsidiary silver coin is legal tender up to \$10; the 5-cent piece (now made of nickel) is legal tender up to \$5; and the 1-cent bronze coin, up to 25 cents. Since 1931, the Government has permitted the export of gold only under licences issued by the Department of Finance, thus conserving the gold resources of the nation for meeting external obligations, and Canadian mines now dispose of their gold through the Royal Canadian Mint according to definite conditions of purchase.

Bank Notes.—Canadians early became accustomed to the free circulation of paper money, either in the form of notes of the chartered banks or of notes issued by the Government.

Under the Bank Act the chartered banks may issue notes of the denominations of \$5 and multiples thereof to the amount of their paid-up capital. This amount is to be reduced by 5 p.c. per annum for a period of five years from Jan. 1, 1936, and by 10 p.c. per annum for a period of five years from Jan. 1, 1941. In case of insolvency, bank notes are a first lien on assets and for over fifty-five years no note holder has lost a dollar.

Notes Outstanding, 1900-38

(Yearly Averages)

Year	Dominion or Bank of Canada Notes Outstanding	Bank Notes Outstanding	Year	Dominion or Bank of Canada Notes Outstanding	Bank Notes Outstanding
1900	305, 806, 288 204, 381, 409 174, 616, 019 153, 079, 362	\$ 46,574,780 82,120,303 288,800,379 178,291,030 159,341,085 141,969,350 132,165,942	1933. 1934. 1935. 1936. 1937. 19382.	\$ 179,217,446 190,261,981 127,335,340 105,275,223 141,053,457 158,766,152	\$ 130,362,488 135,537,793 125,644,102 119,507,306 110,259,134 100,683,222

¹ Since Mar. 11, 1935, the figures used represent Bank of Canada notes, averages for ten months.

In addition to notes of the chartered banks, there are also now in circulation notes of the Bank of Canada. These notes may be issued to any amount as long as the Bank maintains a reserve in gold equal to at least 25 p.c. of its note and deposit liabilities. Prior to the establishment of the

² Figures are

Bank of Canada, the Government issued notes under certain statutory authorities, backed in part by gold and securities. The Dominion's liability in respect of these notes was assumed by the Bank of Canada on Mar. 11, 1935. The above statement shows the average amount of bank notes and Dominion (or Bank of Canada) notes outstanding in various years.

Banking

The Canadian banking system is a product of evolution, having grown up gradually with changes made from time to time as experience directed. Its most distinctive feature, the branch bank system, is well adapted to the needs of a country of wide area and scattered population.

Banking in Canada began to develop some of the features of a central bank system soon after Confederation. These in chronological order are:—

- (1) Central Note Issue, permanently established with the issue of Dominion notes under legislation of 1868.
- (2) The Canadian Bankers' Association, established in 1900 to effect greater co-operation in the issue of notes, in credit control, and in various other ways.
 - (3) Central Gold Reserves, established in 1913.
- (4) Re-discount Facilities, made a permanent feature of the system in 1923, provided the banks with a means of increasing their legal tender cash reserves at will.
 - (5) The Bank of Canada, established in 1935.

The Bank of Canada.—Legislation was enacted in 1934 to establish the Bank of Canada as a "central" or "bankers'" bank. In 1936 Parliament approved a change in capitalization which gave a majority of outstanding shares to the Minister of Finance on behalf of the Government of Canada. During the 1938 session of Parliament, legislation was passed for the purchase of all shares then in the hands of the public by the Government so that the Bank of Canada is now completely owned by the people of Canada as a whole. The Bank of Canada assumed the liability of the Dominion notes in circulation on Mar. 11, 1935, when the Bank commenced business, in return for gold and silver held by the Government as security for Dominion notes and 3 p.c. five-year Dominion of Canada bonds. The chartered banks also surrendered to the Bank of Canada the gold held by them in Canada at the currency value (\$20.67 per fine ounce). An allowance was made to the banks in respect of 40 p.c. of the gold held by them, which proportion of their gold was considered as being held against foreign liabilities. For this gold they received the market price.

The Bank is empowered to buy and sell securities in the open market; to discount securities and commercial bills; to fix minimum rates at which it will discount; to buy and sell bullion and foreign exchange. It is the main issuer of paper money in Canada and will become increasingly so as the chartered banks gradually reduce their issues to 25 p.c. of their paid-up capital (see p. 134). The Bank may issue notes to any amount so long as it maintains a reserve of gold coin and bullion equal to not less than 25 p.c. of its note and deposit liability in Canada. The reserve in addition

to the gold coin and bullion may include silver bullion, foreign exchange, securities of the United Kingdom and the United States having a maturity not exceeding three months and bills of exchange having a maturity not exceeding ninety days, payable in the United Kingdom, the United States, or a gold standard country.

The chartered banks are required to maintain a reserve by way of deposit with the Bank and Bank of Canada notes of not less than 5 p.c. of their deposit liabilities in Canada.

The Bank acts as the fiscal agent of the Dominion of Canada and may, by agreement, act as banker or fiscal agent for any province. The Bank does not accept deposits from individuals and thus does not compete with the chartered banks in the commercial banking field.

The following statement gives the main items of assets and liabilities of the Bank of Canada as at Oct. 31, 1937, and Oct. 31, 1938:—

	1937	1938
Notes in circulation. Dominion Government deposits. Chartered banks' deposits. Gold coin and bullion. Investments. Total assets and liabilities.	31,580,913	\$178,080,328 25,362,506 228,459,920 181,145,791 214,664,295 443,142,810

Commercial Banking.—The number of chartered banks, which was 36 in 1881 and 34 in 1901, decreased to 25 in 1913 and is now only 10. This lessening of the number of banks has been accompanied by a great increase



St. James Street, Montreal.—The financial district of Montreal, showing the Bank of Montreal on the left.

Courtesy, Canadian Government Motion Picture Bureau.

in the number of branches. In 1868 there were only 123 branch banks in Canada. By 1902 the number, including sub-agencies, had grown to 747, by 1916 to 3,198 and by 1929 to 4,069, but by the beginning of 1938 the number had decreased to 3,336. From 1867 to October, 1938, the total assets have grown from \$78,000,000 to \$3,424,000,000.

Of late years the banks of Canada have extended their business outside of the country itself and at the beginning of 1938 had among them 143 branches, not including sub-agencies, in foreign countries, mainly in Newfoundland, the West Indies, Central and South America, and in the great centres of international finance, London, Paris, and New York.

The number of branches, assets, liabilities, loans, and deposits of the Canadian chartered banks as at Oct. 31, 1938, by banks, together with totals (yearly averages) for certain years are shown in the following table.

Statistics of Individual Chartered Banks as at Oct. 31, 1938

Bank	Branch- es in Canada and Abroad ¹	Total Assets	Liabili- ties to Share- holders	Liabili- ties to the Public	Total Liabili- ties	Loans and Dis- counts	De- posits by the Public
	No.	,000,000	,000,000	,000,000	°000,000	°000,000	,000,000
Bank of Montreal Bank of Nova Scotia Bank of Toronto Banque Provinciale du Canada Canadian Bank of Commerce Royal Bank of Canada Dominion Bank Banque Canadienne Nationale Imperial Bank of Canada Barclay's Bank (Canada)	535 702 133 227 190	874 311 145 63 665 878 143 154 168 23	75 36 15 5 50 55 14 12 15 2	798 274 128 57 614 819 128 141 152 21	873 310 143 62 664 874 142 153 167 23	255 120 52 21 247 349 60 71 78	751 254 119 49 564 757 116 132 142 15
Totals, Oct. 1938 Totals, 19374 Totals, 19364 Totals, 19355 Totals, 19355 Totals, 19204 Totals, 19104 Totals, 19104	2,890 2,961 2,978 3,598 4,876 2,621	3,424 3,317 3,145 2,957 3,237 3,064 1,211 460	279 279 278 278 305 252 179 98	3,132 3,026 2,856 2,668 2,910 2,784 1,619 356	3,411 3,305 3,134 2,946 3,215 3,036 1,198 454	1,255 1,201 1,141 1,276 2,065 1,935 870 279	2,899 2,776 2,615 2,427 2,517 2,438 910 305

¹ As at Dec. 31. Does not include sub-agencies. in Canada in September, 1929. ³ 1911. ⁴ Totals are averages from the respective monthly statements, except in the case of the numbers of branches in Canada and abroad which are as at Dec. 31.

Bank Clearings and Bank Debits.—Through the clearing houses, interbank transactions have been recorded since 1889; they form a valuable indication of the trend of business. They, however, do not tell the whole story, since numerous transactions between persons who carry their accounts in the same bank are not recorded in bank clearings; also, every amalgamation of banks lessens, in so far, the volume of clearings. Again, head office clearings have been effected through the Bank of Canada since Mar. 11, 1935, and this has tended to increase exchanges compared with previous years. For these reasons, a record of cheques debited to accounts at all branches at clearing-house centres is considered to possess greater reliability as a barometer of economic conditions and such a record was instituted in 1924; between that date and 1929 the grand total of bank debits for

Canada increased from \$27,157,000,000 to \$46,670,000,000. Since 1929 there was a steady decline to the 1932 level of \$25,844,000,000, but since then the movement was generally upward, reaching \$35,929,000,000 in 1936. In 1937 there was a recession to \$35,166,000,000, the decrease amounting to only $2 \cdot 1$ p.c.

Bank Debits at the Clearing-House Centres, by Economic Areas, calendar years 1933-37

Economic Area	1933	1934	1935	1936	1937
	\$. \$	\$	\$	\$
Prairie Provinces British Columbia	13,027,437,905 6,414,353,624 1,491,590,173	9,449,709,866 14,919,504,095 6,337,239,720 1,625,968,184	8,977,529,023 13,876,626,476 6,445,395,764 1,672,462,218	10,938,647,731 15,778,679,837 6,505,518,677 2,075,358,484	11,568,421,542 15,939,149,497 4,827,021,407

Insurance

Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States about the middle of the nineteenth century. By 1875 there were at least 26 companies, and possibly several more, competing for the available business in Canada, as against 41 active companies registered by the Dominion and a few provincial companies in 1937. Of the 41 active companies registered by the Dominion, 28 were Canadian, 5 British, and 8 foreign.

The development of life insurance in Canada, as in other English-speaking countries at least, has been marked by an increased service to the individual policyholder. The benefits which may now be obtained under a life insurance policy are calculated to meet the needs of the policyholder and of his dependants, whether in event of old age or in event of death or of disability. In 1919 there was introduced what is known as "group insurance", a plan whereby a group of persons, usually employees, are insured by their employer, for a uniform amount or a varying amount determined by a formula, under one policy, generally on the term plan, the employer paying the premium or a substantial part thereof. Each employee usually has the right to obtain an individual policy at ordinary normal rates, without medical examination, on termination of employment.

As a result of the adaptation of life insurance policies to the needs of the public, and of the growing wealth of the community, the increase in the amount of life insurance in force has been remarkable. In 1869 the total life insurance in force in Canada, by Dominion companies, was only \$35,680,000 as compared with approximately \$6,540,000,000 at the end of 1937. This latter figure was equal to \$583 per head of population. In addition there was \$175,000,000 of fraternal insurance in force by Dominion licensees and \$125,000,000 of insurance in force by provincial licensees. Thus the total life insurance in force in the Dominion at the end of 1937 was approximately \$6,840,000,000. The premium income from Canadian

business of all Dominion registered companies (not including fraternal benefit societies) increased from \$90,000,000 in 1920 to \$221,000,000 in 1930 but decreased to \$199,000,000 in 1937.

The following table shows the sales of life insurance month by month in recent years. The statistics are not complete but represent approximately 85 p.c. of the total business transacted in Canada.

Sales of Life Insurance in Canada, by Months, 1936-38

Note.—The figures in this table are those published by the Hartford Research Bureau except that totals for Newfoundland, included therein, have been deducted.

Month	1936	1937	1938	Month	1936	1937	1938
	\$'000	\$'000	\$'000		\$'000	\$'000	\$'000
JanuaryFebruaryMarchAprilMayJune	33, 166 28, 673 30, 404 28, 601 28, 189 30, 903	27, 492 30, 402 31, 741 32, 577 31, 559 37, 316	30, 291 31, 605 34, 484 29, 624 29, 902 34, 767	July	31, 148 23, 260 25, 913 29, 150 36, 437 33, 883	32,043 27,891 27,214 33,365 37,901 36,459	29,773 27,555 27,14' 31,495 -

Fire Insurance.—Fire insurance in Canada began with the establishment, by British fire insurance companies, of agencies usually situated in the seaports and operated by local merchants. The oldest existing agency of a British company is that of the Phœnix Fire Office of London, now the Phœnix Assurance Co., Ltd., which opened in Montreal in 1804.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is obtainable. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the province of Nova Scotia until 1919, when it was granted a Dominion licence.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1937, shows that at that date there were 274 fire insurance companies doing business in Canada under Dominion licences, of which 56 were Canadian, 68 were British and 150 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to 79 p.c. of the total number is a very marked point of difference between fire and life insurance in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) in the fire insurance in force, is no doubt partly due to the growth of the practice of insurance; but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. By 1880, companies with Dominion licences had fire insurance in force totalling \$411,564,271; by 1900, the one billion-dollar mark had about been reached; and by 1930, the total stood at \$9,672,997,000. At the end of 1937, besides \$9,768,324,476 of fire insurance in force in companies with Dominion licences there was also \$976,220,698 in force in companies with provincial licences, or about \$10,744,545,174 in force with companies, associations, or underwriters licensed to transact business in Canada.

Miscellaneous Insurance.—Miscellaneous insurance now includes among other classes in Canada: accident (including personal accident, employers' and property liability, and accidental damage to personal property), sickness, falling aircraft, earthquake, automobile, aviation, burglary, explosion, forgery, fraud, credit, guarantee, hail, inland transportation, live stock, machinery, personal property, plate glass, property, sprinkler-leakage, steam boiler, title, tornado, and weather insurance, etc. Whereas, in 1880, 18 companies were licensed for such insurance, in 1937 there were 245 companies, of which 53 were Canadian, 65 British and 127 foreign.

The total net premium income for 1937 was \$34,585,727 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past twenty years; although a decrease had been shown for a few years prior to 1935, there have been increases in 1935, 1936, and 1937. As recently as 1910, the premium income of companies doing an automobile insurance business was only \$80,466; in 1916 it was \$909,503 and in 1937 \$16,810,675. The premium income of personal accident insurance came second with \$3,199,319. Combined accident and sickness insurance was third in 1937 with \$2,319,214. The premium income of all accident and sickness insurance combined totalled \$9,538,099.

Loan and Trust Companies

The principal function of loan companies is the lending of funds on first mortgages on real estate, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies under provincial charters, the majority operate largely in the more prosperous farming communities.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of \$2,110,403 and deposits of \$577,299. Rapid increases in the number of companies and total volume of business resulted from subsequent legislation. In 1899, 102 companies made returns showing capital stock paid up of \$47,337,544, reserve funds of \$9,923,728 and deposits of \$19,466,676; total liabilities had increased from \$3,233,985 to \$148,143.496 between 1867 and 1899. After slight decreases in the number of loan companies in operation through amalgamations and absorptions further growth was recorded shortly after the turn of the century. As a result of the revision of the laws relating to loan and trust companies in 1914, statistics of provincially incorporated loan and trust companies ceased to be collected, but of late years these have made voluntary returns so that all-Canadian totals are again available.

The paid capital stock of all real estate mortgage loan companies at the end of 1937 was \$36,993,235 (Dominion companies \$19,352,276 and provincial companies \$17,640,959); reserve funds \$25,676,598 (Dominion companies, \$15,054,878 and provincial companies \$10.621,720); liabilities to the

public, \$128,639,358 (Dominion companies, \$100,476,505 and provincial companies, \$28,162,853); and liabilities to shareholders, \$64,776,713 (Dominion companies, \$35,784,375 and provincial companies, \$28,992,338).

Trust companies act as executors, trustees, and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minors or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy. Some companies receive deposits but the lending of actual trust funds is restricted by law. Trust companies are principally provincial institutions, since their original main functions were connected with probate which lies within the sole jurisdiction of the provinces.

The aggregate total assets of the trust companies of Canada at the end of 1937 were \$2,799,919,831 as compared with \$805,000,000 in 1922 (the earliest year for which figures are available). The bulk of these assets (\$2,558,857,368 in 1937) was represented by estates, trusts and agency funds. The assets of Dominion companies in 1937 amounted to \$281,290,893 and of provincial companies to \$2,518,628,938.

Small Loans Companies

There have been incorporated in recent years by the Parliament of Canada, a number of companies which make small loans, usually not exceeding five hundred dollars each, on the promissory notes of the borrowers and additionally secured in most cases by endorsements or chattel mortgages. While small loans companies may, under their charter powers, make loans on the security of real estate, actually they have made only a very few of such loans. As the business of these companies has now reached considerable proportions the figures are now separated from those of the loan companies proper. The figures relating to the three companies of this class which have commenced operations are: paid capital of Dominion small loans companies at the end of 1937, \$1,001,750; reserve funds, \$520,308; liabilities to the public, \$3,378,049; liabilities to shareholders, \$1,759,701.

Miscellaneous

Canadian Bond Financing.—The declining trend in sales of railway and corporation bond issues, so clearly in evidence for 1933, was reversed in 1934, showed substantial improvement in 1935 and 1936, and receded again in 1937.

In the latter year, sales under this head were valued at \$157,178,800. Corporation bond financing accounted for \$91,298,800 of this, so that \$65,880,000 remained for railway issues. As a result of the business recession, governmental financing greatly exceeded that of private concerns during 1937.

Canadian investors purchased over 93 p.c. of the total offerings, the remainder being sold on the New York market. The London market has not been an important factor in Canadian financing since 1934.

Sales	of (Canadian	Bonds,	1929-37
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	Class of	Bonds	Dist			
Year	Govern- ment and Municipal	Railway and Cor- poration	Sold in Canada	Sold in the United States	Sold in the United Kingdom	Total
	\$	\$	8	\$	\$. \$
1929. 1931. 1932. 1934. 1935. 1936. 1937.	218, 628, 309 1,069,638,571 450,067,632 564,558,132 907,500,200 946,091,087 1,109,999,475	181, 182, 000 23, 050, 000 73, 402, 696 109, 005, 700 352, 983, 224	378, 395, 909 1,090,800,571 377, 752, 632 529, 630, 828 853, 940, 900 1,211,824,311 1,178,928,275	50,000,000 162,065,000 86,000,000	4,100,000 14,350,000 58,330,000 500,000 1,250,000	661, 158, 909 1,250,820,571 473, 117, 632 637, 960, 828 1,016,505,900 1,299,074,311 1,267,178,275

Interest Rates.—There does not exist in Canada as yet a market for money in the same sense as in great financial centres such as London and New York. However, since the War, the growing importance of Dominion financing in the domestic market has made it possible to compile a Dominion index of bond yields which is representative of interest rates in Canada. Fluctuations in the Dominion of Canada long-term bond yields for the past 9 years are shown below.

Indexes of Dominion of Canada Long-Term Bond Yields, 1930-38

(1926 = 100)

Month	1930	1931	1932	1933	1934	1935	1936	1937	1938
January February March April May June July August September October November	102·1 101·4 101·1 99·3 98·4 98·2 98·0 95·9 93·6 93·6	93·9 93·6 91·9 90·0 89·3 88·3 88·3 95·5 105·2 107·7	112·7 112·2 109·1 109·8 109·3 111·7 107·5 100·5 98·7 96·2 98·5 99·4	96·3 96·0 97·7 96·6 95·0 93·3 93·5 92·2 92·4 93·5 94·3	93·2 91·0 86·1 83·8 81·8 82·1 80·1 77·8 77·2 79·3 77·2 71·3	70·9 73·2 71·4 72·2 71·4 73·4 72·1 71·6 79·8 78·9 74·5	$72 \cdot 4$ $70 \cdot 8$ $69 \cdot 9$ $69 \cdot 5$ $68 \cdot 8$ $66 \cdot 9$ $65 \cdot 1$ $63 \cdot 2$ $63 \cdot 1$ $66 \cdot 2$ $65 \cdot 1$ $64 \cdot 1$	64 · 6 68 · 4 72 · 7 73 · 2 71 · 0 69 · 3 69 · 0 68 · 1 68 · 3 69 · 7 68 · 8 67 · 4	66 · 65 · 64 · 63 · 61 · 62 · 65 · 63 · 61 · 61 · 61 · 62 · 65 · 63 · 61 · 61 · 61 · 62 · 65 · 63 · 61 · 61 · 61 · 62 · 65 · 63 · 61 · 61 · 61 · 61 · 61 · 61 · 61

CHAPTER XVI

LABOUR—UNEMPLOYMENT RELIEF— OLD AGE PENSIONS

Dominion Department of Labour.—The steady growth of industry and labour organization in Canada has been accompanied on an increasing scale by governmental consideration of labour problems. The Dominion Department of Labour was established in 1900. Its duties are to aid in the prevention and settlement of labour disputes, to collect and disseminate information relative to labour conditions, to administer the Government's fair wages policy in regard to wages and hours of labour on government contracts, and, in general, to deal with problems involving the interests of workers. Under the first-mentioned of these functions, the Industrial Disputes Investigation Act, enacted in 1907 to promote the settlement of



A Skilled Worker Polishing the Mould Board of a Plough. Inset: Putting the finishing touches on a mould for a plough share.

Courtesy, Massey-Harris Company, Limited.

disputes in mines and certain public utility industries, has attracted favourable comment throughout the world. Up to Mar. 31, 1938, 564 threatened disputes had been referred to Boards of Conciliation and Investigation established under its provisions and open breaks had been averted in all but 39 cases. Under a separate statute, entitled the Conciliation and Labour Act, conciliation officers are available to assist in the settlement of labour disputes arising from time to time, and their services have been widely utilized to this end. The administration of the fair wages policy in regard to government building and construction works is carried out under an Act of Parliament entitled the Fair Wages and Hours of Labour Act, 1935, and, in regard to government contracts for various classes of supplies and equipment, under the provisions of an Order in Council. The monthly Labour Gazette has, since 1900, provided a comprehensive survey of labour conditions in Canada, and is supplemented by various special publications dealing with wages and hours of work, labour organizations, labour laws, etc. The Department also administers the Employment Offices Co-ordination Act, the Technical Education Act, the Government Annuities Act, the Combines Investigation Act, and the Dominion relief legislation, and is charged with duties arising out of the relations of Canada with the Labour Organization of the League of Nations.

Provincial Departments of Labour.—Labou. legislation in Canada is. for the most part, a matter for the provincial legislatures. In all the provinces but Alberta and Prince Edward Island there is a special department or bureau charged with the administration of labour laws. In Prince Edward Island there is little labour legislation and in Alberta the Department of Trade and Industry administers most labour legislation, the Board of Industrial Relations having charge of statutes regulating wages and hours. Legislation for the protection of miners is administered in all provinces by the department dealing with mines. Factory legislation in eight provinces and shops legislation in several provinces prohibit child labour, regulate the hours of women and young persons, and provide for safety and health. Minimum-wage legislation for both male and female workers in all the provinces except Nova Scotia and Prince Edward Island is administered by special boards which, in most cases, form part of the labour department. Other legislation administered by the provincial departments includes the laws in all provinces providing for public employment offices and for the licensing of certain classes of workmen, the Industrial Standards Acts in Alberta, Saskatchewan, Ontario, and Nova Scotia enabling the wages and hours of work agreed upon by representatives of employers and employees to be made legal throughout the industry concerned, and the Collective Labour Agreements Act in Quebec permitting collective agreements between employers and trade unions to be binding on all in the industry. Workmen's compensation laws in all provinces except Prince Edward Island are administered by independent boards.

Gainfully Occupied and Wage-Earners

Gainfully Occupied.—Statistics of the gainfully occupied by sex and age are obtained at each decennial census, but for intercensal years estimates are made by applying the percentage of gainfully occupied in

the population, as in 1931, to the intercensal estimates of population. It has been found by experience that this percentage does not vary much from census to census (especially in the total of gainfully employed, although the numbers at various ages, particularly in the lower age groups, need some adjustment). The table below gives estimates of the numbers that, on the above basis, would be normally gainfully occupied in 1938.

Estimated Number and Percentage of the Population Normally Gainfully Occupied in each Age Group, 1938

Age Group	Ma	le	Female		
nge Group	No.	P.C.1	No.	P.C.1	
	'000		'000		
0–13	5	1.11	1	0.	
14	13	11.18	2	1.	
15	30	26.56	7	6.	
6–17	127	55 - 12	46	20.	
8–19	172	80.33	85	40.	
0–24	479	92.64	215	42.	
5–34	880	97.73	187	21.	
5–44	704	97.82	86	12.	
5–54	636	96.61	65	11.	
5-64	. 428	90.77	42	10-	
5–69	109	75.48	11	8.	
0 or over	91	42.00	10	4.	
Totals, 10 Years or Over	3,674	_	757		

Wage-Earners.—The number of wage-earners is less than the total gainfully occupied because the latter includes large numbers working on their own account such as farmers, doctors, etc., who are not wage-earners. Again the number of wage-earners employed at any time depends on the state of industrial activity. Correlation of wage-earners actually employed in June, 1931, as collected by the Employment Statistics Branch of the Dominion Bureau of Statistics, with the distribution of total wage-earners enumerated as at work on June 1, 1931, at the Census of 1931.

Estimated Numbers of Wage-Earners actually Employed

Month and Year	Wage- Earners Employed	Per Cent Employed ¹	Month and Year	Wage- Earners Employed	Per Cent Employed ¹
	'000			'000	
Sept. 1936. Oct. 1936. Nov. 1938. Dec. 1938. Jan. 1937. Feb. 1937. Mar. 1937. Apr. 1937. May 1937. June 1937. July 1937. Aug. 1937.	2,267 2,284 2,267 2,137 2,144 2,116 2,120 2,188 2,353 2,453 2,470 2,536	86.2 86.5 85.7 82.7 82.6 82.3 82.5 84.3 87.8 89.9 91.2	Oct. 1957 Nov. 1937 Dec. 1937 Jan. 1938 Feb. 1938 Mar. 1938 Apr. 1958 May 1938 June 1938 July 1938	2,587 2,577 2,504 2,377 2,300 2,225 2,163 2,212 2,304 2,338 2,378	$\begin{array}{c} 92 \cdot 0 \\ 91 \cdot 4 \\ 89 \cdot 6 \\ 86 \cdot 2 \\ 85 \cdot 1 \\ 83 \cdot 6 \\ 82 \cdot 6 \\ 83 \cdot 5 \\ 85 \cdot 2 \\ 85 \cdot 8 \\ 85 \cdot 0 \\ 86 \cdot 6 \end{array}$
Averages	2,277	85 · 9	Averages	2,356	86.4

¹ Estimated on the basis of the number of normally gainfully occupied, the proportions employed among labour unions, and the bearing of these factors on general employment among wage-earners in the past.

shows that the employment statistics collected monthly by the Bureau of Statistics from employers having 15 or more persons on their staffs are broadly representative and can therefore be used to estimate reliably the total number of wage-earners employed during intercensal years. On this basis, the estimate of wage-earners employed in the twelve-month period September, 1937, to August, 1938, averaged 2,356,000, which represents 86·4 p.c. of the total wage-earners. The monthly figures for 1938 compared with 1937 appear in the table on p. 145.

Organized Labour in Canada

Until the middle of the nineteenth century only a small number of independent trade unions, for the most part consisting of workmen of a single craft in one locality, had been formed in Canada. From 1850 to 1870 unionism in Canada was still in the stage of unconcerted action, but during that period its sporadic growth was greatly stimulated by the marked progress of the trade union movement in Great Britain and in the United States of America. The Dominion's basic trade-union legislation, passed in 1872, was patterned closely after the British statutes of the previous year. At the same time the United States was furnishing Canada with the model for the actual machinery of labour organization, and in this period most of the existing Canadian local unions affiliated with the American central organizations of their respective crafts. The Trades and Labour Congress of Canada, the oldest federated labour organization in the Dominion, has been functioning continuously for over half a century as the recognized head and legislative mouthpiece of the internationally organized Canadian workers.

Beginning in 1901 a number of 'national' unions, later known as National Catholic Unions, were organized in the province of Quebec, and in 1921 a central organization of these unions, known as the Confederation of Catholic Workers of Canada, was established. The Canadian Federation of Labour, formed in 1902, continued as a separate entity for a quarter of a century and then merged with the newly organized All-Canadian Congress of Labour, which has remained in existence since 1927. Recently there has been formed a new organization known as the Canadian Federation of Labour.

The total number of organized workers in Canada at the end of 1937 was 384,619, as compared with 322,473 in 1936. International unions had 2,048 branches in the Dominion, with a combined membership of 217,465. Unions operating only in Canada had 1,210 locals, with a combined membership of 167,154.

Industrial Disputes

During the eleven months (January to November, inclusive) of 1938 there were 188 strikes and lockouts, which involved 24,929 workers and caused a loss of 153,327 man working days. During the twelve months of 1937 there were 278 disputes, involving 71,905 workers and causing a time loss of 886,393 working days, and, in 1936, 156 disputes, involving 34,812 workers and causing a time loss of 276,997 working days. The minimum loss in working days since the record was commenced in 1901 was in 1930,

when 91,797 working days were lost in 67 disputes, involving 13,768 workers. The maximum loss was in 1919, when 336 disputes involved 148,915 workers and caused a time loss of 3,400,942 working days.

Dominion Unemployment Assistance Measures, 1938

Grants-in-Aid.—Under the provisions of the Unemployment and Agricultural Assistance Act, 1938, the administration of which is vested in the Minister of Labour, the Dominion is continuing to assist all of the provinces except New Brunswick in discharging their responsibilities in connection with the granting of material aid to necessitous persons by way of monthly grants-in-aid. As the province of New Brunswick is not distributing material aid, the Dominion has agreed to contribute an amount equal to that which would have been contributed by way of monthly grant-in-aid, had such been necessary, towards the province's cost of an enlarged relief works program.

In accordance with the recommendations of the National Employment Commission, payment of the monthly grants-in-aid to the provinces is covered by agreements which lay down regulations governing the granting of material aid to which the Dominion Government contributes. The agreements provide that for the period April to December, 1938, inclusive, the Dominion will contribute towards the provinces' material aid expenditures 35 p.c. in the case of the Prairie Provinces and 30 p.c. in the case of British Columbia, Ontario, Quebec, Nova Scotia, and Prince Edward Island, or a maximum amount per month, whichever shall be the lesser. The maximum monthly amounts provided by the agreements are: Prince Edward Island, \$4,000; Nova Scotia, \$17,500; Quebec, \$400,000; Ontario, \$465,000; Manitoba, \$165,000; Saskatchewan, \$230,000; Alberta, \$125,000; British Columbia, \$115.000. The agreements stipulate that after the month of September, 1938, the maximum amounts provided may be subject to revision from time to time, any revision so made to be set by Dominion Order in Council.

For the purposes of the agreements, the term "material aid" is defined as meaning either food, fuel, clothing, and shelter supplied to individuals in necessitous circumstances, or, subject to the approval of the Minister of Labour, the costs of carrying on works and training projects specifically designated by the provinces as projects intended to provide said individuals when employed thereon the equivalent of food, fuel, clothing, and shelter which would otherwise have to be supplied to those individuals.

Under the terms of the agreements the provinces are required to maintain such residence regulations that no person will become ineligible to receive material aid by reason of having lost residence in one municipality or jurisdiction within the province before having established residence in another and to require from all applicants for material aid resident in districts in which there is an office or representative of the Employment Service of Canada (other than resident farm operators and those engaged in farm work) proof of application by them to the said service for work and of determination by said service of their employability.

It is further provided that the maximum value of material aid contributable to by the Dominion given to any head of family or other individual, of itself or together with any additional allowance for material aid made by the province or a municipality, shall be less than the normal earnings of an unskilled labourer in the district wherein the recipient resides, as averaged over the year preceding the granting of said aid. In this connection it is provided that in determining said maximum, account may be taken for average loss of time, and, in respect to heads of families, that adjustment may be made for normal earnings of dependants of employable age and of proved employability.

To remove from the minds of recipients of material aid the fear that in accepting such work as is available they might sacrifice the possibility of receiving material aid in the future when further need arises, and to insure that seasonal workers shall make out of their earnings reasonable provision for seasonal unemployment, the agreements provide that the provinces shall require such cities and towns as may be designated by the provinces to provide for each person in their jurisdictions who ceases to receive material aid during the term of the agreement by reason of entering gainful occupation a statement of the rate of material aid granted prior to said cessation and a reasonable budget of expenditures for the individual or family while the bread-winner is in gainful occupation. The provinces have further agreed in this respect to require each applicant for further aid to obtain a properly certified statement of earnings to be filled in and signed by employers of the applicant prior to his or her re-admission for material aid benefits.

Provision is made that no person other than a resident of Canada shall be eligible for material aid, and that no person shall, in relation to his or her eligibility for said aid, be discriminated against nor favoured by reason of his or her race, religious views, or political affiliations.

Farm Placements.—The agreements entered into with the provinces of Manitoba, Saskatchewan, Alberta, and British Columbia under the Unemployment and Agricultural Assistance Act, 1937, respecting the placement on farms of unemployed persons who would otherwise be in receipt of aid, expired on Mar. 31, 1938, together with the legislation under which they were executed. Under the provisions of the Unemployment and Agricultural Assistance Act, 1938, these agreements were, at the request of the provinces, extended to Apr. 30, 1938. At the date of writing, namely, Oct. 1, 1938, agreements with the four western provinces, effective from Oct. 1, 1938, to Mar. 31, 1939, are in course of negotiation, providing for the revival of the Farm Employment Plan, with payment to the individual placed on the farm of a rate equal at the end of the period to \$7.50 per month. Provision is also made for the purchase of suitable work clothing at a cost not in excess of \$3 for each individual placed, while the necessary costs of transportation of workers from the point of employment to the home of the employing farmer is also to be contributed to by the Dominion under the terms of the agreements. The basis of the Dominion's contribution to the provinces under the provisions of the Farm Employment agreements is to be the same as under the 1937 agreements, namely, 50 p.c., the provinces bearing all necessary administration expenses. The largest number of placements during any one month under the 1937 agreements was effected during January, 1938, when 42,733 persons were placed. This number was made up as follows: Manitoba, 10,244; Saskatchewan, 26,772; Alberta, 5,439; and British Columbia, 278.

Supplementary Works Plan.—With British Columbia, where the size of farms does not lend itself to the best development of the Farm Employment Plan, an agreement was made whereby the Dominion and the province would participate on a 50-50 basis and provide forestry and road work for 4,640 persons for the period from Nov. 1, 1937, to Apr. 30, 1938.

Relief Settlement.—The Dominion is continuing to assist the provinces of Quebec, Manitoba, and Alberta in placing on the land, under the Relief Settlement Agreements in effect in past years since 1932, selected families who would otherwise be in receipt of material aid. A more recent agreement has been entered into between the Dominion and the province of Saskatchewan providing for a non-recoverable expenditure of one-third of an amount not to exceed \$1,000 per family for placing selected families on the land and assisting them to become self-supporting. This agreement, which was entered into on June 1, 1937, expires on Mar. 31, 1941. The number of settler families and individuals approved and settled under the various agreements entered into with the provinces since 1932 respecting Relief Settlement is set forth below:—

Number of Settler Families and Individuals Approved and Settled Under the Relief Acts Agreements up to Oct. 1, 1938

Province	Settler Families	Total Individuals	Province	Settler Families	Total Individuals
	No.	No.		No.	No.
Nova ScotiaQuebecOntario	. 343 2,767 606 1.387	2,154 16,849 2,990 6,823	Saskatchewan Alberta British Columbia	939 8 54 5 2	4,604 4,020 285
Manitoba	1,387	0,823	Totals	6,948	37,725

Employment and Unemployment

Unemployment in Trade Unions.—Monthly statistics are tabulated in the Department of Labour from reports furnished by trade unions showing the unemployment existing among their members. In the first ten months of 1938, 1,886 organizations reported an average membership of 222,069, of whom 28,203 were, on the average, unemployed; this was a percentage of unemployment of 12·7, compared with 10·4, 13·2, and 15·7 for the first ten months of 1937, 1936, and 1935, respectively.

Applications, Vacancies and Placements of the Employment Service of Canada.—Since the Employment Offices Co-ordination Act was passed in 1918 the Dominion Department of Labour, in co-operation with the provinces, has maintained local employment offices in a number of centres throughout the Dominion; the volume of business transacted by these bureaus is regarded as indicative of current labour conditions. Up to Oct. 31, 1938, 636,266 applications for work and 318,376 vacancies were registered at the 73 existing offices, while the placements effected numbered 301,442. In the same period of 1937, 584,652 applications for work, 346,561 vacancies, and 321,318 placements were recorded.

National Employment Commission.—The final report of the National Employment Commission, which had been established in 1936 as an advisory body to the Minister of Labour, was submitted on Jan. 26, 1938, and shortly thereafter the dissolution of the Commission was announced. Among the recommendations contained in the Commission's final report were the following: continuation of the monthly national registration and classification of the unemployed in receipt of aid; co-ordination of the activities of the various governmental and voluntary agencies administering assistance to the unemployed; correlation of public works projects with other forms of public assistance; development of measures designed to train and rehabilitate the necessitous unemployed; and modernization of the Employment Service of Canada.

National Registration.—On the termination of the work of the National Employment Commission at Feb. 1, 1938, the national registration of persons in receipt of aid, which had been instituted by the Commission, was transferred to the National Registration Branch of the Department of Labour. An initial registration of all persons receiving material aid (i.e., direct relief) from the provinces and municipalities, where the Dominion contributes financially to such aid, was made in September, 1936, and monthly returns have since been received from municipalities distributing aid. Re-registrations were carried out in September, 1937, and September, 1938.

In addition to providing data in respect to numbers receiving aid, separated as to urban and agricultural, the national registration has provided statistical data concerning the degree of employability of adults, domestic status, age, industry, occupation and time of last employment, length of time on aid, and so forth.

The national registration showed a Dominion total on aid for August, 1938, of 758,688* persons (i.e., individuals on their own, heads of families, and wives and other dependants of heads of families), of whom 471,099 were on urban aid and 287,589 were on agricultural aid. These figures do not include persons engaged at wages on works to relieve unemployment. The grand total had increased from 744,234* for the same period of 1937: the increase was wholly attributable to the larger numbers on agricultural aid in Saskatchewan. Urban aid showed a reduction over the year from 511,390, while the total on agricultural aid had risen from 232,844; Saskatchewan alone showed an increase from 184,380 to 249,817. Excluding members of agricultural families, persons 16 years of age and over on urban aid reported as fully employable showed a decrease across Canada from 142,961 to 124,325. Fully employable persons consist of heads of families, individuals without dependants, and employable dependants of heads of families (other than wives).

Employment, 1937 and 1938.—Statistics of the number of persons on the payrolls of leading employers throughout the Dominion are tabulated monthly by the Dominion Bureau of Statistics, the record since 1920 extending to manufacturing, logging, mining, transportation, communications, construction and maintenance, services, and trade. This

^{*} Not including figures for New Brunswick, which has substituted a works program for material aid assistance.

record of employment is a valuable index to the business situation. In the first eleven months of 1938, returns were furnished by an average of 10,800 employers, whose staffs averaged 1,067,400, compared with averages of 10,200 firms and 1,079,100 employees in the same period of 1937. Improvement over 1937 was shown in the first five months of 1938, but in the latter part of the year the situation was not so favourable. Based on the 1926 average as 100, the employment index for the period Jan. 1 to Nov. 1, 1938, was 111.6, or slightly lower than that of 113.4 in the preceding year; however, as compared with 1936 there was an increase of 8.2 p.c. The 1938 figure was also higher than in the years 1931-36.

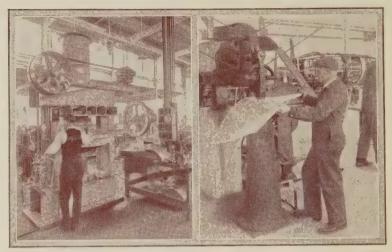
Employment by Economic Areas.—Industrial activity in Quebec and the Prairie Provinces was, on the whole, at a slightly higher level in the period, Jan. 1 to Nov. 1, 1938, than in the same months of 1937, but elsewhere it was lower. In all five economic areas, employment was in greater volume than in 1936 and the years immediately preceding. The accompanying table gives monthly indexes for the five economic areas during 1938, with annual averages since 1929.

Index Numbers of Employment as Reported by Employers, by Economic Areas, as at the First of each Month

Note.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated economic area to the total reported by all employers making returns in Canada at Nov. 1, 1938.

Year and Month	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
1929—Averages. 1930—Averages. 1931—Averages. 1932—Averages. 1933—Averages. 1934—Averages. 1936—Averages. 1936—Averages.	92 · 2 85 · 3 101 · 0 103 · 7	113·4 110·3 100·9 85·5 82·0 91·7 95·4 100·7	123 · 1 114 · 6 101 · 2 88 · 7 84 · 2 101 · 3 103 · 3 106 · 7	126·3 117·1 111·5 90·0 86·2 90·0 95·2 99·3	111·5 107·9 95·5 80·5 78·0 90·4 97·7 101·1	119 · 0 113 · 4 102 · 5 87 · 5 83 · 4 96 · 0 99 · 4 163 · 7
Nov. 1	127·3 122·5 121·0	130·5 129·6 115·4	130·4 125·8 118·3	106·2 100·5 99·3	111·5 107·5 106 ·8	125·2 121·6 114·1
Jan. 1. Feb. 1. Mar. 1. Apr. 1. Apr. 1. June 1. July 1. Aug. 1. Sept. 1. Oet. 1. Nov. 1. Nov. 1. Relative Weight by Economic Areas as	115 · 8 112 · 3 108 · 3 103 · 6 107 · 3 110 · 9 116 · 7 112 · 6 113 · 2 114 · 5 111 · 6	119 · 7 114 · 5 110 · 1 107 · 4 112 · 6 120 · 4 119 · 9 117 · 8 118 · 1 121 · 6 119 · 7 116 · 5	117·5 116·2 113·7 109·6 109·9 112·5 114·0 111·2 115·8 115·0 113·7	96·2 91·7 92·2 89·4 91·5 97·0 99·8 104·9 112·2 113·2 108·1 99·7	97.8 96.4 96.2 100.2 102.8 105.1 108.0 107.1 112.0 111.3 107.5 104.0	113·4 110·4 107·8 107·8 111·9 113·5 112·1 115·1 116·7 114·6
at Nov. 1, 1938	7.5	30.7	40.9	12.5	8.4	100.0

Employment by Cities.—The situation reported in most of the leading industrial cities was not so favourable as in 1937, Montreal and Quebec city only, showing improvement in that comparison. In Toronto, Ottawa, Hamilton, Windsor, Winnipeg, and Vancouver, on the other hand, employment was quieter than in the preceding year. On the whole, activity was greater than in 1936.



The Standard of Labour Conditions in Canadian Factories is Maintained by Provincial Legislation and Careful Inspection. The picture on the left shows a worker operating a hydraulic press used for stamping out aircraft fairings, etc.; to the right float bottoms are being shaped with a machine hammer.

Courtesy, Fairchild Aircraft Limited.

Employment by Industries.—For the months, Jan. 1-Nov. 1, 1938, the index in manufacturing as a whole, (1926 = 100), averaged 111·1, or slightly lower than that of 114·3 for the same period of 1937, when the situation was better than in any other year since 1930. Most divisions of manufacturing reported employment in 1938 as being rather below the unusually high level of 1937, but the index was higher than in 1936

in most branches of manufacturing especially in foods, (vegetable and animal), non-ferrous metals, non-metallic minerals, rubber goods, electrical apparatus, and chemicals.

Among the non-manufacturing industries, logging reported serious curtailment in 1938, following the unusual activity of 1937; employment in transportation and communications was slightly lower than in 1937, but rather higher than in 1936. Construction and services reported somewhat greater activity than in either 1937 or 1936, while in trade the average index in the first eleven months of 1938 was practically the same as in the same period of the preceding year, but exceeded that indicated in 1936. Mining, on the whole, was rather brisker than in 1937 and afforded considerably more employment than in any earlier year of the record.

Index Numbers of Employment as Reported by Employers, by Industries, as at the First of each Month

and the state of each worth									
Year and Month	Manu- factur- ing	Log- ging	Mining	Com- muni- cations	Trans- porta- tion	Con- struc- tion and Main- tenance	Ser- vice	Trade	All Indus- tries
1929—Averages 1930—Averages 1931—Averages 1932—Averages 1933—Averages 1935—Averages 1936—Averages 1937—Nov. 1 Dec. 1	117·1 108·9 95·3 84·4 80·9 90·2 97·1 103·4	125 · 8 108 · 0 60 · 1 42 · 6 66 · 5 124 · 7 126 · 9 138 · 7 306 · 3 355 · 4	120·1 117·8 107·7 99·2 97·5 110·8 123·3 136·5	120·6 119·8 104·7 93·5 83·9 79·1 79·8 81·0	109 · 7 104 · 6 95 · 8 84 · 7 79 · 0 80 · 3 81 · 2 84 · 1	129 · 7 129 · 8 131 · 4 86 · 0 74 · 6 109 · 3 97 · 8 88 · 2	130 · 3 131 · 6 124 · 7 113 · 6 106 · 7 115 · 1 118 · 2 124 · 5	12M-2 127-7 123-6 116-1 112-1 117-9 122-1 127-4	119·0 113·4 102·5 87·5 83·4 96·0 99·4 103·7
Averages, 12 mos. 1938— Jan. 1. Feb. 1. Mar. 1.	108.6 110.3 110.5	323·6 290·7 212·7	155·2 153·3 155·2 154·3 153·9	85·9 85·4 85·1 82·9 82·2	$84 \cdot 1 \\ 85 \cdot 2$ $82 \cdot 0$ $79 \cdot 6$ $79 \cdot 0$	104·2 99·5 81·9 71·6 71·4	130 · 6 130 · 2 132 · 5 128 · 4 127 · 1	139 · 6 132 · 1 141 · 7 127 · 9	121 · 6 114 · 1 113 · 4 110 · 4
Apr. 1	110·8 110·6 112·3 111·8 110·0 113·8 112·5	115·0 97·5 93·6 86·1 59·6 58·6 78·8	151·3 149·7 153·3 154·5 153·6 157·4 160·8	82·5 82·5 84·7 87·2 88·2 88·3	78·5 83·9 84·9 86·3 86·9 88·7	$71 \cdot 6$ $88 \cdot 2$ $114 \cdot 5$ $124 \cdot 9$ $128 \cdot 0$ $133 \cdot 8$	129 · 8 131 · 9 135 · 3 146 · 1 143 · 5 146 · 7	126·0 127·1 131·3 131·5 133·3 132·1 131·0	107·8 105·0 107·4 111·9 113·5 112·1 115·1
Nov. 1. Averages, 11 mos. Relative Weight by Industries as at Nov. 1, 19381.	112·5 110·9 111·1	130 · 8 140 · 6	160 · 8 163 · 4 155 · 2	87·2 85·5 85·1	90·1 87·9 84·3	143 · 5 122 · 5 104 · 7	136 · 1 132 · 8 135 · 5	134 · 5 135 · 6 132 · 0	116·7 114·6 111·6

¹ See headnote to table on p. 151.

Old Age Pensions and Pensions for Blind Persons The Old Age Pensions Act, 1927.—The Act provides for a Dominion-

Provincial system of non-contributory old age pensions in such provinces as have enacted and given effect to special legislation for this purpose. The provinces are charged with the payment of pensions, the Dominion reimbursing each province, quarterly, to the extent of 75 p.c.* of the net cost of its payments on account of old age pensions. All the provinces are now operating under such agreements. Old age pensions are also payable in the Northwest Territories. Authority was given to the Gold Com-

^{*}The proportion to be paid by the Dominion as set forth in the Act of 1927 was one-half, but this was increased at the 1931 session of Parliament to 75 p.c., which increase was made effective from Nov. 1, 1931.

missioner of the Yukon in 1927 to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act, but no scheme has as yet been formulated.

Statement of Old Age Pensions, as at June 30, 1938

	7700	Number	Average	Dominion Government Contributions		
Province	Effective Date	of Pensioners	Monthly Pension	Apr. 1 to June 30, 1938	From Inception of Act	
			\$	\$	\$	
Prince Edward Island	July 1, 1933 Mar. 1, 1934 July 1, 1936 Aug. 1, 1936 Nov. 1, 1929 Sept. 1, 1928 Aug. 1, 1929 Sept. 1, 1927 Jan. 25, 1929	1,833 13,846 11,261 47,096 57,884 11,856 11,789 9,869 11,843	10·60 14·69 13·79 17·86 18·50 18·65 16·47 18·35 19·19	43,490 461,086 350,417 1,891,233 2,359,602 491,166 448,809 402,789 506,858 520	723, 337 7, 272, 977 2, 552, 398 12, 622, 571 61, 208, 963 13, 192, 773 11, 890, 458 8, 457, 931 12, 419, 884 13, 563	
Totals	-	177,285	_	6,955,970	130,354,855	

Pensions for Blind Persons.—By an amendment to the Old Age Pensions Act, assented to Mar. 31, 1937, provision is made for the payment of pensions, under certain conditions, to blind persons who have attained the age of forty years. The maximum pension payable to blind persons is \$240 a year which is subject to reduction by the amount of the pensioner's income in excess of \$200 a year in the case of an applicant who is unmarried or is a widower or a widow without a child or children, and by the amount of income in excess of \$400 a year in the case of an applicant who is married or a widower or widow with a child or children. The Act provides for a reduced pension to a blind person who marries another blind person subsequent to the date on which the Act came into force.

Pensions for blind persons are administered by the provincial authorities under agreements made by the Lieutenant-Governors of the provinces with the Governor in Council. The Dominion Government assumes responsibility for 75 p.c. of the net sum paid out by the provinces for pensions to blind persons. Operations to June 30, 1938, are shown below.

Statement of Pensions for Blind Persons, as at June 30, 1938

Province	Effective	Number	Average	Dominion Government Contributions		
	Date	of Pensioners	Monthly Pension	Apr. 1 to June 30, 1938	From Inception of Amendment	
			\$	\$	\$	
Prince Edward Island Nova Scotia New Brunswick Quebec Ontario Manitoba Saskatchewan Alberta British Columbia	Dec. 1, 1937 Oct. 1, 1937 Sept. 1, 1937 Oct. 1, 1937 Sept. 1, 1937 Sept. 1, 1937 Nov.15, 1937 Mar. 7, 1938 Dec. 1, 1937	64 314 298 996 902 153 86 70 168	14 · 14 18 · 96 19 · 53 19 · 47 19 · 51 18 · 94 19 · 94 19 · 34 19 · 34	1,688 18,631 21,859 59,582 52,336 8,104 7,443 2,074 9,018	2,348 30,615 30,853 116,611 90,872 14,516 9,221 2,074 12,044	
Totals		3,051	_	180,735	309,154	

CHAPTER XVII

EDUCATION



The Main Entrance to Macdonald Hall, Macdonald College, Que.

Canada's constitution assigns public education, except in the case of the native Indian population, to the jurisdiction of the Provincial Governments. A system of public elementary and secondary education, financed mainly by local school authorities (of which there are about 23.500). but assisted by provincial grants, has developed in each province. Since 1913 the Dominion Government has provided certain grants to the provinces for education, first in aid of agricultural instruction, later technical education, and in 1937 for the training

of unemployed youth. Yet, in spite of provincial and Dominion assistance, more than 80 p.c. of the cost of running the schools is met by local school authorities, the source of revenue being almost entirely taxation on real estate.

There are some private schools in all provinces, i.e., schools that are not conducted by publicly-elected or publicly-appointed boards, and not financed out of public money, but their enrolment amounts to only about 4 p.c. of the total. In the realm of higher education six provinces have each a provincially-supported university, and the remaining three have each one or more colleges supported by provincial funds, but in most of them there is a considerable number of students in private, endowed, or denominational colleges.

With nine distinct provincial systems of education there are many opportunities for each province to benefit from the educational experience of others. Several Dominion-wide educational associations exist through which it is possible for exchange of experience to take place: the Education Association of Canada and Newfoundland, the Canadian Teachers' Federation, the National Conference of Canadian Universities, the Canadian Federation of Home and School Associations, the Canadian Associations

tion for Adult Education, etc. The discussions conducted at their recent meetings indicate some of the problems currently receiving most attention in Canadian education.

For several years there has been scarcely a single major meeting that has not given some consideration to the inequality of educational opportunity in different areas, and the wide local variations in the weight of school support resulting from the situation wherein each rural community of a few families is, in most provinces, responsible for the greater part of its school costs. Some communities, it is claimed, are unable to find money with which to keep their schools up to any reasonable minimum standard, even though their school taxes may represent a higher proportion of income than in other communities with the best of school services. The remedy lies in the direction of equalizing school costs over larger areas: regional or provincial areas are most frequently considered but the brief of the Canadian Teachers' Federation to the Royal Commission on Dominion-Provincial Relations proposed financial assistance for the purpose from the Dominion Government. Notable progress in the formation of larger areas for school finance has been made in Alberta and British Columbia during the past two or three years.

Another problem receiving a good deal of attention is the re-organization of post-elementary instruction that has become necessary as the proportion of young persons remaining in school beyond the elementary years has so conspicuously increased. Space does not permit of an account of the changes that are taking place, but the Annual Survey of Education in Canada, published by the Dominion Bureau of Statistics,* includes a bibliography of Canadian studies in education, and an index of contents of the education periodicals published in Canada; these record the literature to be consulted for the extended study of this and other problems.

A factor that has emphasized the problem of adjustments between elementary and secondary schooling is the decreasing number of younger children. The child population of the country has, for some years, ceased to increase. There are fewer children under the age of ten than in the 10-year group aged 10-19, and this situation has contributed to the relative disproportion in post-elementary schools. It has also contributed to the over-supply of teachers that accumulated in recent years, but has not been, by any means, entirely responsible for it.

Fewer girls left teaching for other positions, or to be married during the depression years, and former teachers came back to the profession after spending some time at other work. This is reflected in the proportions of male and female teachers; in four years men teachers increased by about 3,500 while women teachers decreased by 800. Fewer new teachers have been training since 1933, however, and in some provinces an early shortage is anticipated.

A special service offered by the Departments of Education in six of the nine provinces is correspondence courses for children living in remote areas out of reach of a school. In Saskatchewan more than 6,000 children taking high school studies in small rural schools are helped by correspondence lessons from the Department. Ontario conducts a unique type of

^{*}Obtainable from the King's Printer, price 50 cents.

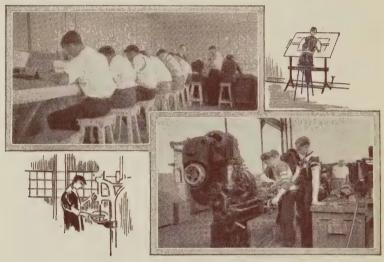
school, in its school railway cars, for children in northern areas. The correspondence courses are in some cases followed by children physically handicapped who are unable to attend school. The larger cities in most of the provinces conduct special classes in the ordinary schools for mentally retarded children, and in some cases for children with defective hearing, sight, and other physical handicaps. This side of the educational system is particularly well developed in Ontario, where it has been extended into rural communities. Children in all provinces who are blind or deaf are educated in special residential schools at provincial expense. Institutions for feeble-minded and delinquent children are also provincially conducted.



A Junior High School Class at Work in the Library of a Winnipeg High School.—In this school each class is given a weekly library period of 45 minutes, a practice that is becoming more general in the intermediate and high schools of Canada. Trained librarians are employed in secondary schools in increasing numbers. In some towns a teacher in a school without a reading room takes her class to the Public Library, and in others the Children's Specialist from the Public Library gives talks in the school on the selection and use of books.

Courtesy, Robert H. Smith School, Winnipeg.

Native Indian children are educated in special schools administered by the Dominion Government, at which attendance is compulsory to the age of 16 years. Practically half of the 18,000 Indian children are enrolled in boarding schools operated by church organizations, at which attendance can be more regular and training more thorough than in small day schools. Training for occupations is particularly stressed in the larger schools, Technical and vocational training continues to receive emphasis in most of the larger cities, but three provinces—Manitoba, Nova Scotia, and Prince Edward Island—are still without any day technical schools at the secondary level. There are increasing indications, too, of a conviction among educators that it is not enough to offer technical courses, but that there should be a closer linking together of the schools and industry, with vocational guidance for the young people as they go through school. Guidance has lately been given a definite place on the secondary school programs of British Columbia and Alberta, and receives the attention of an increasing number of teachers through the medium of the Ontario Vocational Guidance Association.

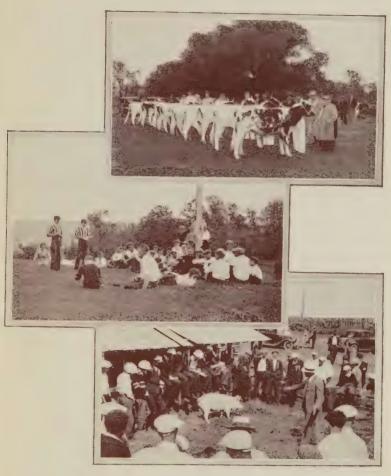


Vocational Training.—A practical arrangement for vocational training and guidance between a Manitoba high school and a paper mill in the locality. Boys are pictured while learning mechanical drafting at the school and during a period of actual practice in the machine shop of the mill.

Courtesy, J. Bruce Day, Pine Falls, Man.

Agricultural education is not conducted through the medium of boarding schools to the extent that it is in many other countries. For instance, Denmark, with a population about equal to Ontario's, has 21 such schools with an annual attendance of 2,500 to 3,000, in addition to 59 folk high schools (also residential institutions) with an attendance of 6,500 drawn mainly from among farm young people. The total enrolment in agricultural boarding schools in all Canada, including the diploma course at agricultural colleges, is about 800.

Agricultural instruction, of course, receives attention in the ordinary day schools, and for no other occupation, with the possible exception of homemaking, do Governments in Canada conduct so many educational services outside of the schools, as for agriculture. Short courses by provincial mines departments for prospectors have been attended by nearly 5,000 men in a year lately, but short courses for farmers, their wives and children, varying in length from a few days to several weeks, are attended by several times this number. And courses are by no means the only type of educational service sponsored by the extension branches of the Departments of Agriculture and agricultural colleges, as is illustrated by the accompanying pictures of boys' and girls' club work.



One of the valuable types of informal agricultural education in Canada is that conducted by means of boys' and girls' farm clubs. This work has been co-ordinated on a national scale since 1931 by a Canadian Council on Boys' and Girls' Club work with headquarters in Ottawa. The number of clubs has doubled; is now about 2,400 with a membership of more than 35,000. Live-stock clubs are most numerous but there are also many crop, horticultural and home economics projects. (1) Heifers raised by members of a dairy-calf club in Quebec; (2) An outdoor club meeting in Nova Scotia; (3) A demonstration on bacon hogs being given to an Alberta boys' club.

Courtesy, Alex. E. MacLaurin, Ottawa.

At the university level there has been practically no change in total attendance for several years. This is in marked contrast with earlier postwar years when the increase was very rapid. Nearly 3 p.c. of the young people growing up in Canada to-day become graduates of a university—about 4 p.c. of the young men and 1½ p.c. of the young women. The proportion receiving a degree in Arts or Science is nearly double what it was fifteen years ago, but in several of the professions the increases have not kept pace with the increase in population, and in a few the annual number of graduates has definitely fallen. The population is larger per doctor or clergyman now than it was a generation ago, and is nearly double in some provinces what it is in others; the number of veterinaries has actually fallen while live stock has become much more numerous.

Some of the most rapid increases in professional workers have been in the several branches of engineering. Native-born Canadians have met little more than half of the demand for mining, mechanical or electrical engineers, designers, draughtsmen, and architects, and only about twothirds of the demand for civil engineers, surveyors, chemists, assayers, and metallurgists. Much of the greatest outside source of supply has been the British Isles, while the United States has supplied larger numbers than the continent of Europe. Europe has contributed its greatest proportions to Canadian professionals among clergymen, artists, and musicians, and only in these fields has its contribution exceeded that of the United States, Yet, by racial origins, music and art are two of the most 'English' of the professions in Canada, and theology one of the most 'French'. Journalism is one of the most 'British', in the sense that persons of English, Irish, and Scottish origins occupy a considerably greater share of positions in journalism than in other occupations. Considering all the professions together, persons born in the British Isles occupy more than their share of positions, i.e., considerably higher percentages of the total than in other occupations, while the opposite holds for immigrants from Europe. A general survey of the occupational fields for which the universities train was published by the Dominion Bureau of Statistics in 1937 under the title "Supply and Demand in the Professions in Canada".

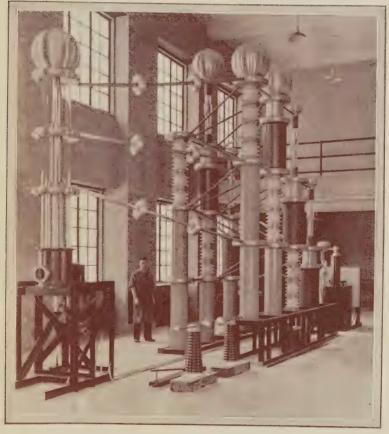
In the field of adult education notable advances were made in 1936 and 1937. A full-time director was engaged for the Canadian Association for Adult Education, and classes of the Workers' Educational Association, formerly confined to Ontario, were organized in all but two of the other provinces. Attendance at evening classes in technical schools showed considerable gains after falling off in the earlier 1930's. An adult Education League was formed in Prince Edward Island in close conjunction with the provincial library system, its methods of operation resembling those of the now well-established system of study groups of Nova Scotia centring in St. Francis Xavier University. The same scheme of adult study made substantial beginnings in New Brunswick. The established work of university extension departments was maintained and certain new services tried, such as a summer school of rural life in Alberta.

CHAPTER XVIII

MISCELLANEOUS STATISTICS

The National Research Council

The National Research Council consists of 15 members selected for terms of three years from among men prominent in scientific work in Canadian universities or in Canadian industry. The Council is required by statute to meet at least four times annually in Ottawa. There is a President appointed by the Governor in Council for a term of years, who reports directly to the Committee of the Privy Council on Scientific and



A 600,000-volt X-Ray Installation.—This is part of the equipment available for the inspection of metal castings and welds used in the construction of aircraft.

Industrial Research, of which the Minister of Trade and Commerce is the chairman. The Council's membership is broadly representative of all parts of Canada and includes persons qualified to speak authoritatively on points of science, industry, business, and finance.

Apart from administration, which is organized much on the lines of a department of Government, the staff of the Council is grouped in a number of divisions, each under a director. The Divisions of Biology and Agriculture, of Chemistry, of Physics and Electrical Engineering, of Mechanical Engineering (including Hydraulics and Aeronautics) are responsible for the direction and conduct of technical work in the fields indicated by their designations. Provision is made for the closest co-operation and collaboration among all branches concerned in any particular problem, and for the collection, collation, and issue of scientific information as well as for the general planning of laboratory research and of co-operative investigations through committees. A national scientific reference library is being built up.

In order to correlate the work of all Canadian research organizations concerned with specific problems or groups of problems, a number of associate committees have been set up. These committees have been organized as a result of the need, either for co-operative effort on a problem, or for study of the research needs and facilities in a given field and the subsequent development of a program to meet the needs by the most efficient use of the facilities available. Under this policy hundreds of men with scientific or industrial training have associated themselves with the Council in the work to which this training can give the greatest impetus, and have pooled their knowledge without reserve. The success of the associate committees is a monument to the goodwill and unselfish effort of Canadian scientists.

The Council has also developed a system of assisted researches in order to make use of the facilities for research which exist in a number of Canadian universities. By this means, projects of importance, which otherwise could not be undertaken, are carried on under the competent direction of members of a university staff.

Encouragement of postgraduate training in scientific research is given chiefly in the graduate schools of Canadian universities through a system of scholarships provided annually by the Council.

Accounts of the several researches in progress in the various divisions of the laboratories at Ottawa and projects to which financial aid is given are to be found in the report of its activities issued annually by the Council, and in bulletins on special subjects. The Canadian Journal of Research, issued monthly in four sections—physical, chemical, botanical, and zoological sciences—provides an increasingly popular outlet for papers by Canadian research workers. It is now found on the shelves of the leading scientific libraries of the world.

One of the most important functions of the National Research Council is to provide a mechanism for correlation and co-operation in carrying forward scientific and industrial research. A few inventions and developments, representing the product of the many co-operating organizations and

individuals, in addition to those comprising the staff of the Council's laboratories, who have worked together under the Council's auspices, serve to indicate the wide variety and economic importance of the research work undertaken. Examples are: new disease- and drought-resistant crop varieties; new malting tests; new data on root systems of crops and weeds as a guide to efficient crop production; plant-hormone synthesis and utilization; improved methods in refrigeration; study of the curing and pickling of bacon; improved refrigerator-car heater; new plant types as a result of heat treatment of seed; new refractories from Canadian raw material; modified potato starches for domestic and industrial uses; new highly efficient distillation apparatus; farm windmills for charging batteries; improved seaplane floats and aeroplane skis; method of bonding metal and rubber; high-voltage apparatus built for standardizing X-ray equipment and for detecting flaws in castings, etc.; powerful generator for testing insulators; apparatus built for the precise calibration of standard gauges; plans developed for improved organization of medical research; data on smelter smoke damage to assist the International Joint Tribunal in determining responsibility for crop damage at Trail, B.C.

Public Health, Hospitals and Charitable Institutions

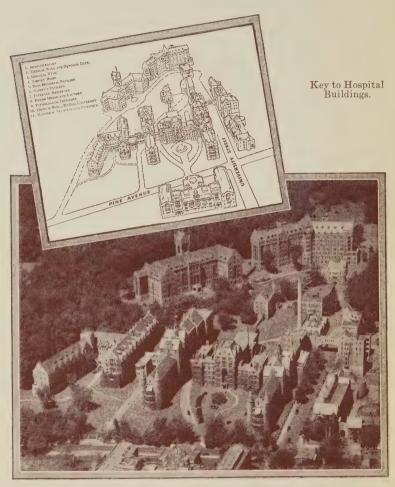
The rapidly widening interest in the fields of public health and public welfare in Canada is evidenced by the fairly steady expansion in the assumption, as a public liability, of the welfare needs of the people, by the Dominion and Provincial Governments. This development seems part of a world-wide tendency following upon the fundamental changes in the community and social life of the people in recent decades.

In Canada, this development has meant a rapid growth in public expenditures for social services, particularly in the fields of public health and public welfare, by municipal, provincial, and Dominion authorities. At the same time voluntary organizations have been extremely active in most Canadian communities, especially in connection with hospitals, charitable and benevolent institutions, and child welfare needs.

These tendencies, already evident in the post-War period, have been intensified in this decade of economic uncertainty, with the result that not only has the participation of provincial and municipal authorities in public health and public welfare become more general but the Dominion Government has assumed liabilities in these fields beyond the concept of postwar years.

The social changes contributing to these developments have been accompanied by equally significant changes in the nature of the services provided. Public welfare administration originated as the care of the needy and distressed by municipalities, but modern trends have greatly increased the scope of governmental public welfare activities. Mothers' allowances operating in seven of the nine provinces and the granting of aid to needy mothers and children in their own homes is gradually superseding care in children's homes, orphanages, and almshouses; old age pensions, towards which the Dominion Government and the provinces contribute, are now operative in all provinces in Canada. By an

amendment to the Old Age Pensions Act in 1937, provision is made for the payment of a pension to every blind person who has attained the age of forty years. Unemployment relief and auxiliary services to meet problems arising from unemployment are provided at the public cost.



Royal Victoria Hospital, Montreal.

Speaking generally, the administration and supervision of public health and public welfare services is in the hands of provincial authorities. Each province has its own department of public health presided over by a minister and his deputy. The department has supervision over general sanitation, control of communicable diseases, including tuberculosis and venereal disease, medical inspection of schools, public health nursing and child welfare, hospitals for the care of the sick and those mentally ill, and, in general, the carrying out of general health services in the province.

The Dominion Government deals only with such public health matters as are either exclusively national or are such as cannot be controlled effectively by the province. Its chief functions are to protect the country against the entrance of infectious disease; to administer the immigration laws; to treat sick and injured mariners; to set standards for and to control the quality of food and drugs, proprietary medicines, etc.; to care for lepers and to co-operate with the provinces in measures for preserving and improving the public health.

Numbers and Bed Capacities of Hospitals and Charitable Institutions in Canada, by Provinces, 1937

Type of Institution	PE.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
Population ('000's omit ted)	93	542	440	3,135	3,711	717	939	778	751	11,120
Hospitals										
Public2—	,									
GeneralNo Bed		23 1,536	16 1,331		110 11,786		73	77	68	4691,3
Women's (only) No	. Nil	2	1	3	3	Nil	Nil	3,607	4,863	38,373 ¹ 11 ¹
Pædiatric No	. "	64	Nil 20	295 3	246 2	11	" 1	33	70 2	7281
Isolation No		80	66	467 4	475 5		28	50	103	1,3381
Bed	3 "	54	66	639	638	3361	5	$\frac{3}{102}$	Nil "	16 ¹ 1,774 ¹
ConvalescentNo Bed		Nil	66	3 279	5 168	501	Nil "	Nil "	"	91 4971
Red CrossNo		66	66	Nil	28 311	Nil	7 66	- 66	1	361
IncurablesNo	. 66	"	1	_ 1	7	11	2	5	4	381 ¹ 18 ¹
OtherNo	- "	"	33 Nil	574 9	1,054	3751 Nil	172	254 1	Nil	2,6321
Bed		66	66	2,443	24	66	89	66	"	2,6221
Totals, Public ² No		27	18	77	161	401	87	88	73	5841,3
Private ² No	. Nil	1,734	6	13,344 39	$14,702 \\ 54$		$\begin{bmatrix} 3,656 \\ 594 \end{bmatrix}$	4,112 43 ⁴	$5,210$ 29^4	48,345 ^{1,3} 241 ⁴
Bed	3 "	264	98	757	711	47	3474	2164	3714	2,8114
Totals, Public No		33	24		215		1464	1314	1024	8251,3,4
and Private ² Bed	252	1.998	1,482	14,101	15,413	3,718	4,0034	4,3284	5,5814	51, 1561,3,4
Special No	Nil	4	3	5	7	4	1	5	4	33
Mental Bed	66	388 16	148				56	253	242	2,498
Bed	275	2,166		11,574	$\frac{16}{13,303}$	2,282	$\begin{bmatrix} 2 \\ 2,600 \end{bmatrix}$	2,118	$\frac{4}{2.455}$	57 37,798
Tuberculosis No Bed		115	3 410	$\begin{bmatrix} 1.435 \end{bmatrix}$	$\frac{12}{3,225}$		730	210	332	38 7,229
Totals, All No		57	31	139	250	57	1524	1414	1114	9531,3,4
Hospitals Beds		4,667		$27,\overline{443}$	32,697	7,034	7,3894	6,9094		98,6811,3,4
CHARITABLE AND	-									
Benevolent No Institutions, Bed		48 2.897	28 1.715	126 19.896	173 10,585		10 430	12 431	21 1,136	4545 39.0715
	1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,		2,000	1.5.5	100	201	2,100	30,011

¹ Figures for Manitoba public hospitals are for 1936. ² Other than mental and tuberculosis. ³ Includes 9 in Yukon and N.W.T. with 280 beds, but does not include 2 which did not report. ⁴ Does not include 1 private hospital in Sask., ³ in Alta., and ¹ in B.C. which did not report. ⁵ Does not include 5 institutions which did not report.

The growth of the hospital movement in Canada parallels closely the distribution of the general population, the larger hospitals being found in the large urban centres of population. Tremendous assistance is given by an increasing number of small but efficient public hospitals to the communities served by them. These small hospitals and outposts have been instrumental in saving many lives and in ameliorating the hardships of

the sick. In the more isolated communities and frontier districts the Red Cross out-post hospitals are continuing to be an important factor not only in caring for the sick but in promoting settlement. These services are further supplemented by the work of the Victorian Order of Nurses, a national visiting nursing association with over 90 branches in Canada. In the Urairie Provinces, the municipal system of hospitals has proved quite successful in extending hospital facilities to districts that could not by themselves support a hospital.

There were in operation in Canada in 1937, 33 Dominion and 825 other hospitals for the sick, excluding mental hospitals (see next paragraph) and tuberculosis sanatoria, of which 584 were public, and 241 private. Public and private hospitals reported a total of 51,156 set up beds and cribs, 68·5 p.c. of which were occupied during the year. The total personnel of all public and private hospitals was 35,988. During the year 1937, 801,246 adults and children received a total of 12,185,519 days' care, an average stay of 15·2 days; there were 88,022 new-born infants under care for 1,089,878 days, an average stay of 12·3 days. Thirty-four hospitals with organized out-patient departments reported 219,084 patients receiving 630,174 treatments; 11 reported treating 125,352 patients but did not report treatments given; and 17 reported only treatments (920,861) given.

Second to general hospitals are the institutions for persons suffering from mental diseases. The public hospitals for the insane, feeble-minded and epileptic are assisted in their care of indigent patients by provincial and municipal grants. In addition there are county and municipal institutions, psychopathic hospitals and a few Dominion and private institutions. The 57 mental hospitals have a normal capacity of 37,798 beds. On Dec. 31, 1937, these institutions reported 41,677 inmates. The total receipts for 1937, including government grants and fees from patients, were \$14,051,528 and the total expenditures \$14,017,403.

Homes or hospitals for incurables provide maintenance, nursing, medical and surgical aid to persons suffering from chronic and incurable diseases and the nature of the services given is such as to call for special reference. Many hospitals for incurables care not only for those suffering from incurable diseases but also for the aged, indigent, feeble-minded and epileptic. There are 18 of these institutions in operation. The average number of patients per day during 1937 was 2,306, the bed capacity 2,632, and the total number under treatment 3,629.

The number of charitable and benevolent institutions in Canada on June 1, 1937, was 459 (454 reported). Of the 459 institutions, 137 were for adults, 88 for adults and children, 118 were orphanages, 95 were children's aid societies, 6 juvenile immigration societies, and 15 day nurseries. These institutions had under care on this date 14,681 adults and 33,413 children. The expenditures in connection with these institutions totalled \$9,224,205 and receipts amounted to \$8,860,547.

Royal Canadian Mounted Police

The Royal Canadian Mounted Police is a Dominion Government constabulary. It was organized in 1873 as the North West Mounted Police. In 1904, it became known as the Royal North West Mounted Police, and in 1920, the name of the Force was again changed to the Royal Canadian Mounted Police, and to it was assigned the duty of the enforcement of Dominion legislation in the whole of Canada. The former Dominion Police, with headquarters at Ottawa, was absorbed at that time.



The Launching of the R.C.M.P. Preventive Service Cruisers, *MacDonald* and *Laurier* at Quebec City.—These two vessels are now in service on the Atlantic coast by the R.C.M. Police and are engaged in the prevention of smuggling.

Courtesy, R.C.M. Police.

At the present time, the R.C.M. Police is responsible throughout Canada for the enforcement of the laws against smuggling by land, sea, and air. It enforces the provisions of the Excise Act, is responsible for the suppression of the traffic in narcotic drugs, enforcement of the Migratory Birds Convention Act, and assists the Indian and Immigration Branches of the Department of Mines and Resources, the Fisheries Department, and numerous other Dominion departments in the execution of the provisions of their respective Acts, or administrative duties. The Force is responsible for the protection of government buildings and dockyards. It is the sole police force in Yukon and the Northwest Territories.

The Marine Section of the Force, which, in conjunction with the land force, is engaged in the prevention of smuggling, had, on Mar. 31, 1938, a strength of 230 officers and men, distributed among 23 cruisers and patrol boats on the Atlantic and Pacific coasts and inland waters.

The Force is controlled and administered by a Minister of the Crown (at present the Minister of Justice), and it may be employed anywhere in

Canada. From a Force of 300 in 1873, it had a strength on Mar. 31, 1938, of 2,598. Means of transport at the latter date consisted of 202 horses, 529 motor vehicles, 434 sleigh dogs, and 4 aeroplanes.

Under the R.C.M. Police Act any province may enter into an agreement with the Dominion Government for the services of the Royal Canadian Mounted Police to enforce provincial laws and the Criminal Code upon payment for its services, and at the present time such agreements are in force with the provinces of Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, and Alberta.

The Force is divided into 14 Divisions of varying strength distributed over the entire country. The term of engagement is five years for recruits, with re-enlistment for one year or three years. The officers are commissioned by the Crown. Recruits are trained at Regina, Sask. The course of training covers six months, and consists of drill, both mounted and on foot, physical training, including instruction in wrestling, boxing, and ju-jutsu. Special attention is paid to police duties, both Dominion and provincial, and detailed lectures are given in these, including court procedure. Instructional courses for promotion are held, and, where practicable, annual refresher courses of training are given.

In 1937, a "reserve" strength of 300 men was authorized by Parliament, and during the months of July and August, 1937, 300 "reservists" were given training at Fredericton, N.B., Ottawa, Ont., Regina, Sask., Vancouver, B.C., and other points, and in future these reservists will be the principal source from which recruits for the Force will be drawn.

National Defence

Militia.—Canada is organized into 11 military districts, each under a Commander and his District Staff.

The Militia of Canada is classified as active and reserve, and the active is subdivided into permanent and non-permanent forces. The Permanent Force consists of 14 regiments and corps of all arms of the service, with an authorized establishment limited to 10,000, but at present the strength is about 4,000. The Non-Permanent Active Militia is made up of cavalry (horse and armoured car), artillery, engineers, signals, infantry (rifle, machine-gun, and tank), army service corps, medical corps, ordnance corps, pay corps, postal corps, veterinary corps, and chaplain services. The total establishment of the Canadian Non-Permanent Active Militia totals 7,050 officers and 79,440 other ranks.

The Reserve Militia consists of such units as may be named by the Governor in Council.

All male inhabitants of Canada, of the age of eighteen years and upwards, and under sixty, not exempt or disqualified by law, and being British subjects, are liable to service in the Militia.

The reserve of the Active Militia consists of: (1) reserve regimental depots; (2) corps reserves and reserve lists of the Non-Permanent Active Militia; (3) reserve of officers; (4) special reserve list—technical officers.

The appropriation for the Militia for the year ending Mar. 31, 1939, was \$16,727,020, as compared with an appropriation of \$18,703,636 for 1937-38.

Navy.—The Royal Canadian Navy was established in 1910. The authorized complements are: 137 officers and 1,582 men of the Permanent

Force (Royal Canadian Navy); 70 officers and 430 men of the Royal Canadian Naval Reserve; 200 officers and men of the Fishermen's Reserve of the R.C.N.R.; 123 officers, 22 instructor ratings and 1,322 ratings of the R.C.N.V. Reserve. Ten appointments of officers of the R.C.N.V.R. are reserved for graduates of the Royal Military College who have had naval training during their R.M.C. course.



Gun Battery, R.C.N. Barracks, Esquimalt, B.C., for Training in Gunnery.

Inset: H.M.C.S. Fundy, one of the four new minesweepers (sister ships) of the Royal Canadian Navy.

Courtesy, Department of National Defence.

The vessels at present in commission in the Royal Canadian Navy are: the destroyers Saguenay and Skeena and the training schooner Venture, based on Halifax, N.S.; the destroyers St. Laurent, Fraser, Ottawa, and Restigouche, the minesweeper Armentières, and the motor patrol vessel Skidegate, based on Esquimalt, B.C. In addition to the above, four new minesweepers are under construction and will be commissioned prior to the end of 1938, as follows: Fundy and Gaspe, based on Halifax; and Nootka and Comox, based on Esquimalt.

Naval dockyards are maintained at the naval bases at Halifax and Esquimalt, where naval depots are also established for training headquarters of the Royal Canadian Navy and the Naval Reserve Forces of Canada.

The appropriation for naval service for 1938-39 was \$6,667,232.

Air Force.—The Royal Canadian Air Force is classified as active and reserve, the Active Air Force being subdivided into permanent and non-permanent. The Force controls and administers all Air Force training and operations, and carries out certain operations on behalf of other Government Departments.

The strength of the Royal Canadian Air Force on Sept. 1, 1938, was: permanent officers 222, non-permanent 84, reserve 154; permanent airmen 1,765, non-permanent 753; aircraft 212.

The appropriation for the Royal Canadian Air Force (including money for civil government operations) for the year 1938-39 was \$11,686,517. The total flying time for the year 1937-38 was 19,582 hours, 50 minutes.

The appropriation for out-of-pocket expenses incurred by the Royal Canadian Air Force in connection with civil government air operations totalled \$356,000 for the fiscal year 1938-39. This expenditure was mainly for photography, and in the year 1937-38, 56,500 sq. miles were covered with oblique, and 23,500 sq. miles with vertical photography.



A New-Type 3-inch Anti-Aircraft Weapon in use by the Canadian Militia.

Courtesy, Department of National Defence.

Administration of Aborigines and Dominion Lands

Indians.—Indians are minors under the law and their affairs are now administered by the Indian Affairs Branch of the Department of Mines and Resources under the authority of the Indian Act. The system of reserves, whereby particular areas of land have been set apart solely for the use of Indians, has been established in Canada from the earliest times. It was designed to protect the Indians from encroachment, and to provide a sort of sanctuary where they could develop unmolested until advancing civilization had made possible their absorption into the general body of the citizens. Reserves have been set aside for the various bands of Indians throughout the Dominion, and the Indians located thereon are under the supervision of the local agents of the Branch. The activities of the Branch, as guardian of the Indians, include the control of Indian education, the care of health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions, and the general supervision of their welfare. The local administration of the Indian bands on the reserves is conducted through the Branch's agencies, of which there are well over 100.

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem. Indians who become enfranchised lose the special protection attached to their wardship, so that premature enfranchisement must be avoided.

Eskimos.—The Eskimos of Canada are found principally on the northern fringe of the mainland and on islands in the Arctic archipelago and in Hudson bay, although in the Baker Lake-Chesterfield Inlet area on the west side of Hudson bay there are bands of Eskimos who are essentially an inland people, and subsist chiefly on caribou. The diet of the coast Eskimos is largely marine mammals and fish, varied at times by caribou obtained from the interior during the seasonal migrations of these animals. The skins of the caribou are used for winter clothing.

The administrative care of Eskimos outside of the organized provinces devolves upon the Lands, Parks and Forests Branch of the Department of Mines and Resources, which, by regulative measures (including the setting aside of game preserves where only natives may hunt), conserves the natural resources necessary to their subsistence. To augment these resources the Branch imported in 1935 a substantial herd of reindeer. Contact with the Eskimos is maintained through permanent stations in the eastern, central, and western Arctic, at a number of which medical officers are located, and by means of the annual Canadian Eastern Arctic Patrol by steamship. Law and order in all regions in Canada inhabited by Eskimos is maintained by the Royal Canadian Mounted Police.

Northwest Territories.—The Northwest Territories Act (c. 142 R.S.C., 1927) provides for a territorial government composed of the Commissioner of the Northwest Territories, the Deputy Commissioner, and five Councillors appointed by the Governor General in Council. The Commissioner

in Council has power to make Ordinances for the Government of the Territories under instructions from the Governor General in Council or the Minister of Mines and Resources.

The administration of the various Acts, Ordinances, and Regulations pertaining to the Northwest Territories is supervised by the Director of the Lands, Parks and Forests Branch, Department of Mines and Resources. A Departmental Agent who is also Superintendent of Wood Buffalo National Park, Dominion Lands Agent, and Mining Recorder, is stationed at Fort Smith. Stipendiary Magistrates for the Northwest Territories are located at Fort Smith, N.W.T., and Morinville, Alta.

A member of the Royal Canadian Mounted Police at Port Radium is Dominion Lands Agent and Mining Recorder for the Great Bear Lake Mining District. Medical Officers are stationed at Fort Smith, Resolution, Simpson, Norman, Aklavik, Port Radium (part time), Yellowknife (part time), Chesterfield, and Pangnirtung (Baffin Island).

National Parks.—Among Canada's greatest tourist attractions are her National Parks, areas of outstanding scenic beauty which have been set aside for the use and enjoyment of the people. These national reservations which cover an area of approximately 12,436 square miles differ widely in character and vary in purpose. They conserve the wild life of Canada under natural conditions, preserve in its primitive state the grandeur of our scenic regions, and commemorate persons and events of outstanding importance in the nation's history. They may be divided into four groups: the large scenic and recreational parks of the Rockies, Selkirks and the prairies; the smaller recreational parks of Eastern Canada; the wild animal parks; and the national historic parks.

The first group includes Banff, Jasper, and Waterton Lakes Parks in Alberta; Kootenay, Yoho, Glacier, and Mount Revelstoke Parks in British Columbia; Prince Albert Park in Saskatchewan; and Riding Mountain Park in Manitoba. In Ontario there are three smaller recreational parks, Point Pelee, Georgian Bay Islands, and the St. Lawrence Islands Parks. Recent additions to the system of recreational parks are the Cape Breton Highlands Park in Nova Scotia and a shore-line park area on the northern coast of Prince Edward Island.

The wild animal parks are the Buffalo and Elk Island Parks in Alberta, noted for their herds of buffalo, and the Nemiskam park, also in Alberta,

which is a sanctuary for pronghorned antelope. Fort Anne Park in Nova Scotia and Fort Beauséjour in New Brunswick are the historic parks.

Further information concerning the National Parks may be obtained from the Lands, Parks and Forests Branch, Department of Mines and Resources, Ottawa.



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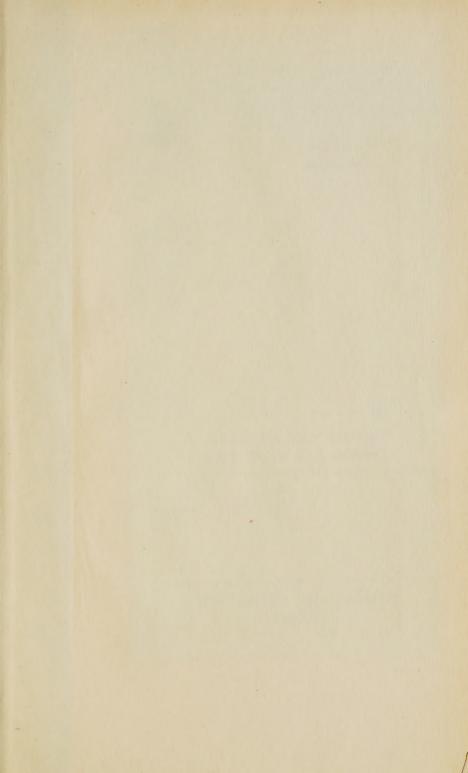
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